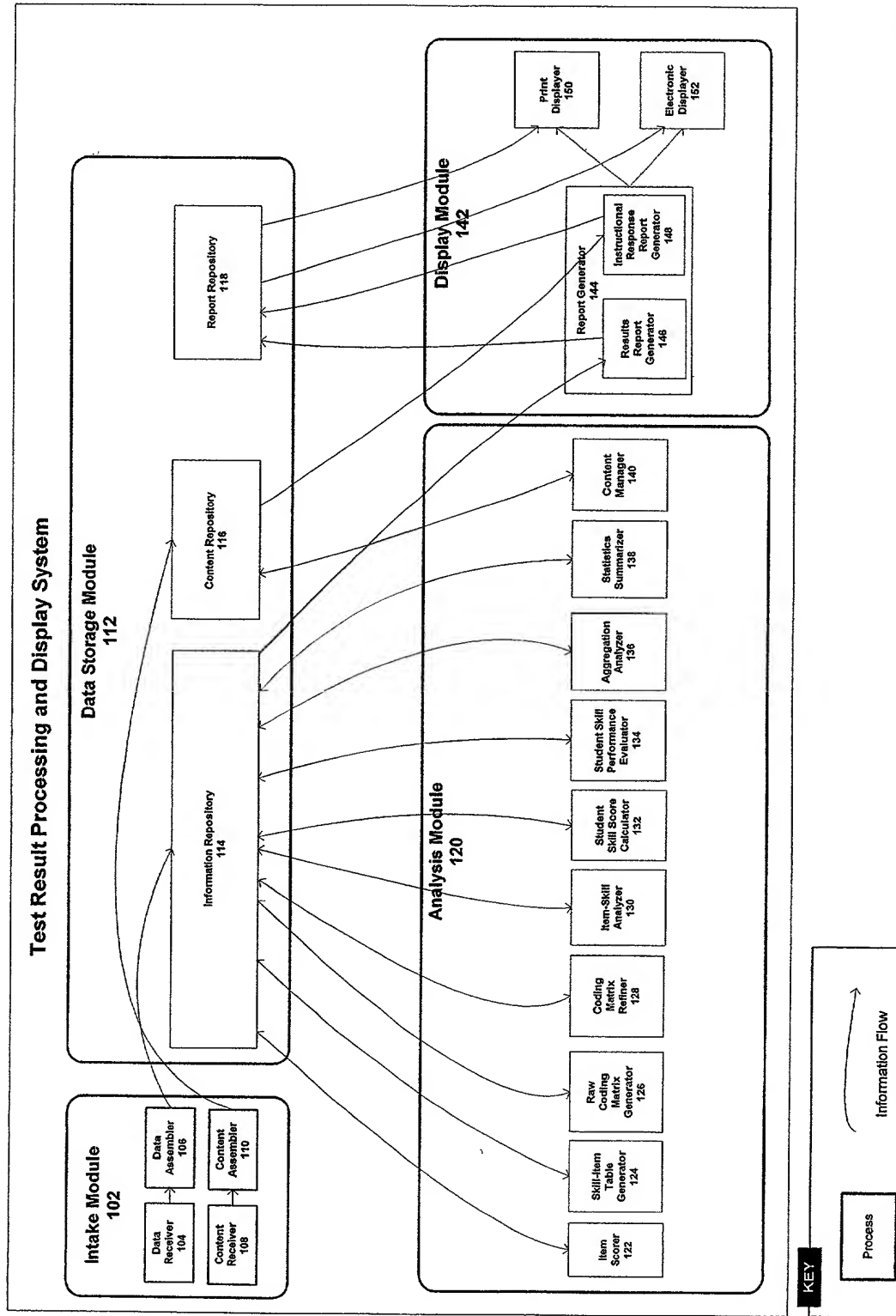
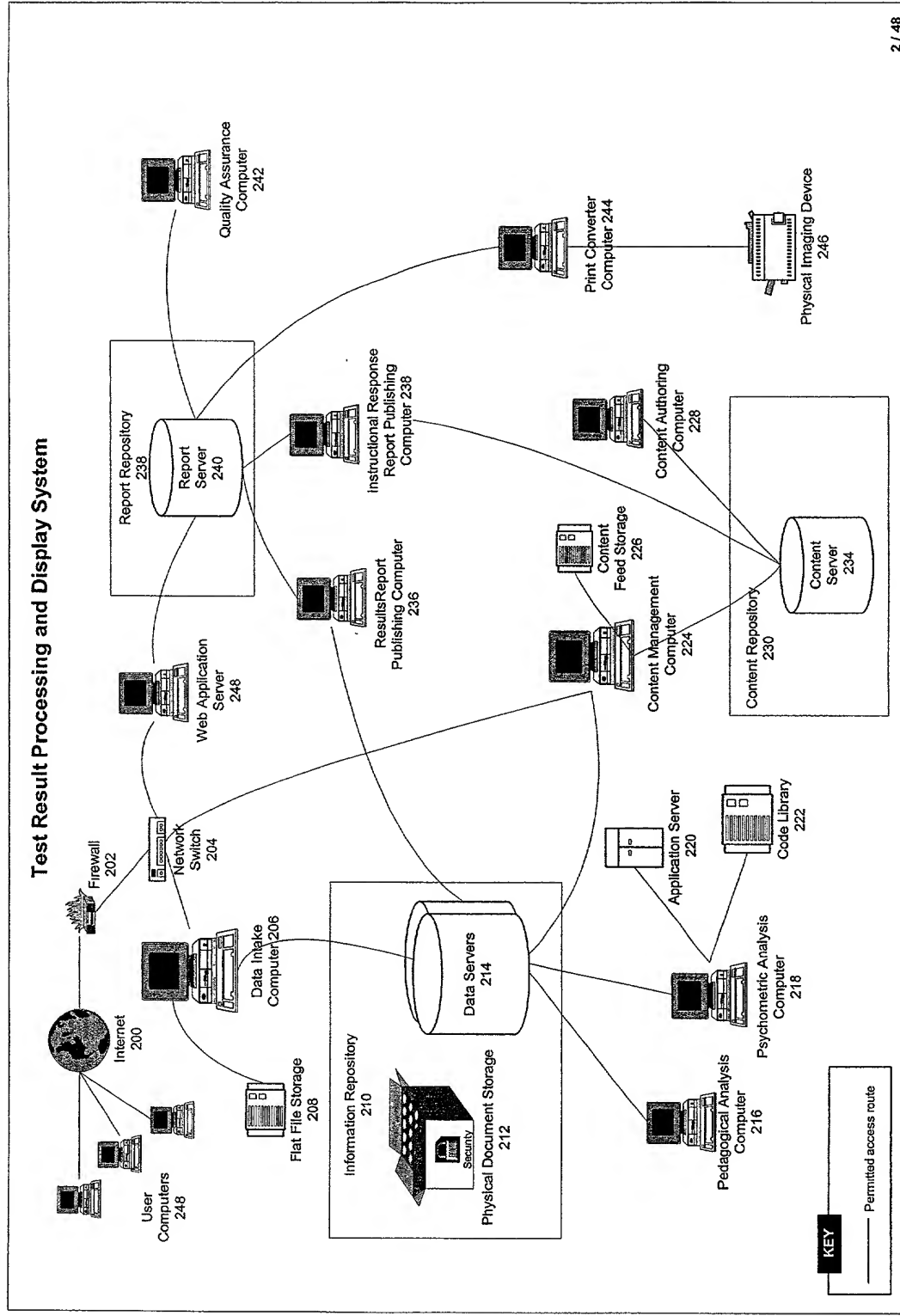


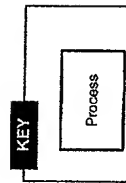
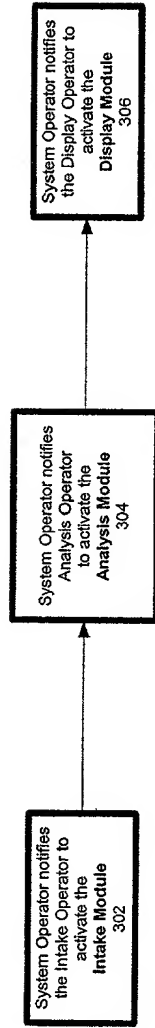
**FIGURE 1**  
Diagram of the System



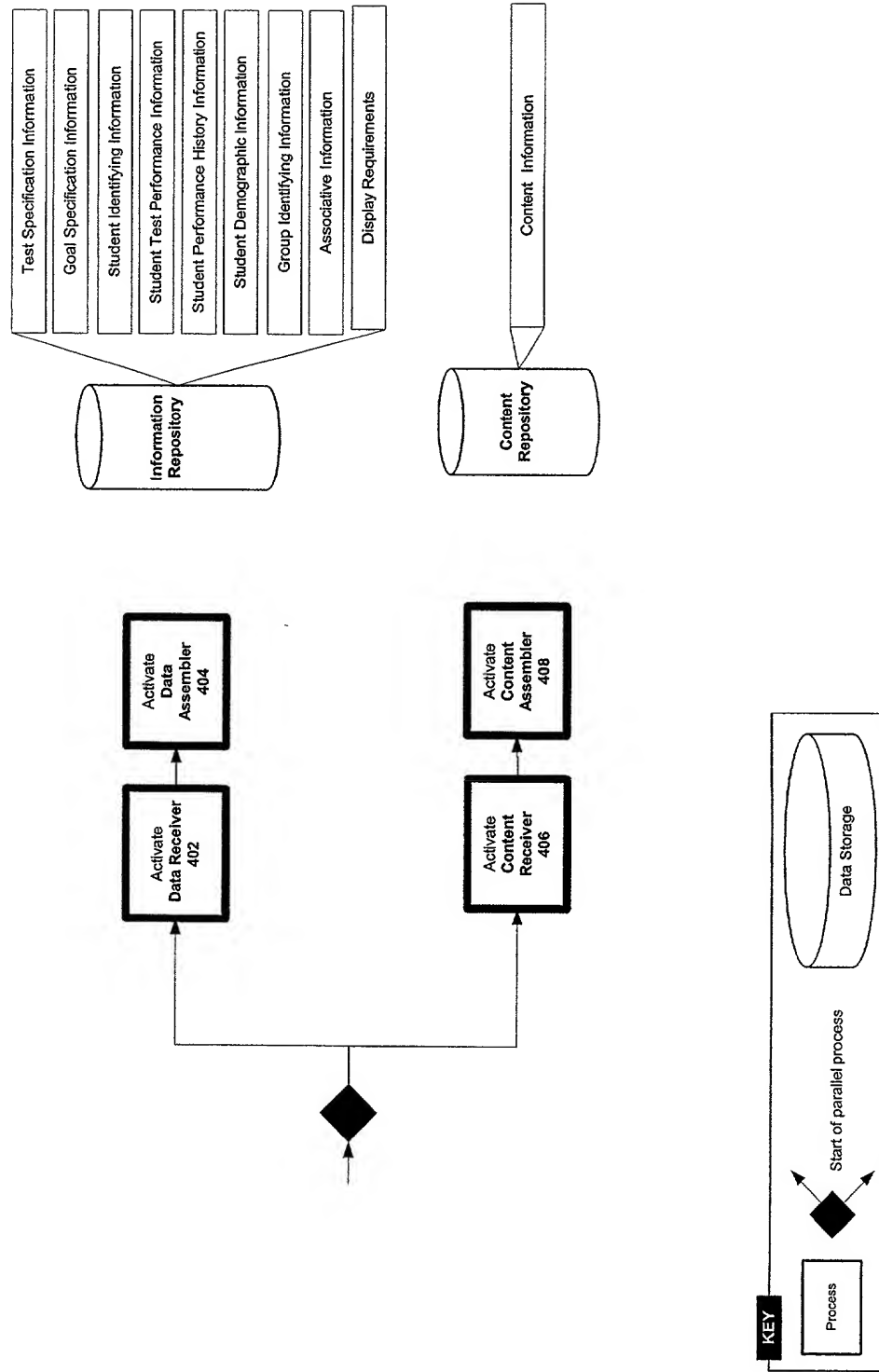
**FIGURE 2**  
*Technical Components of the System*



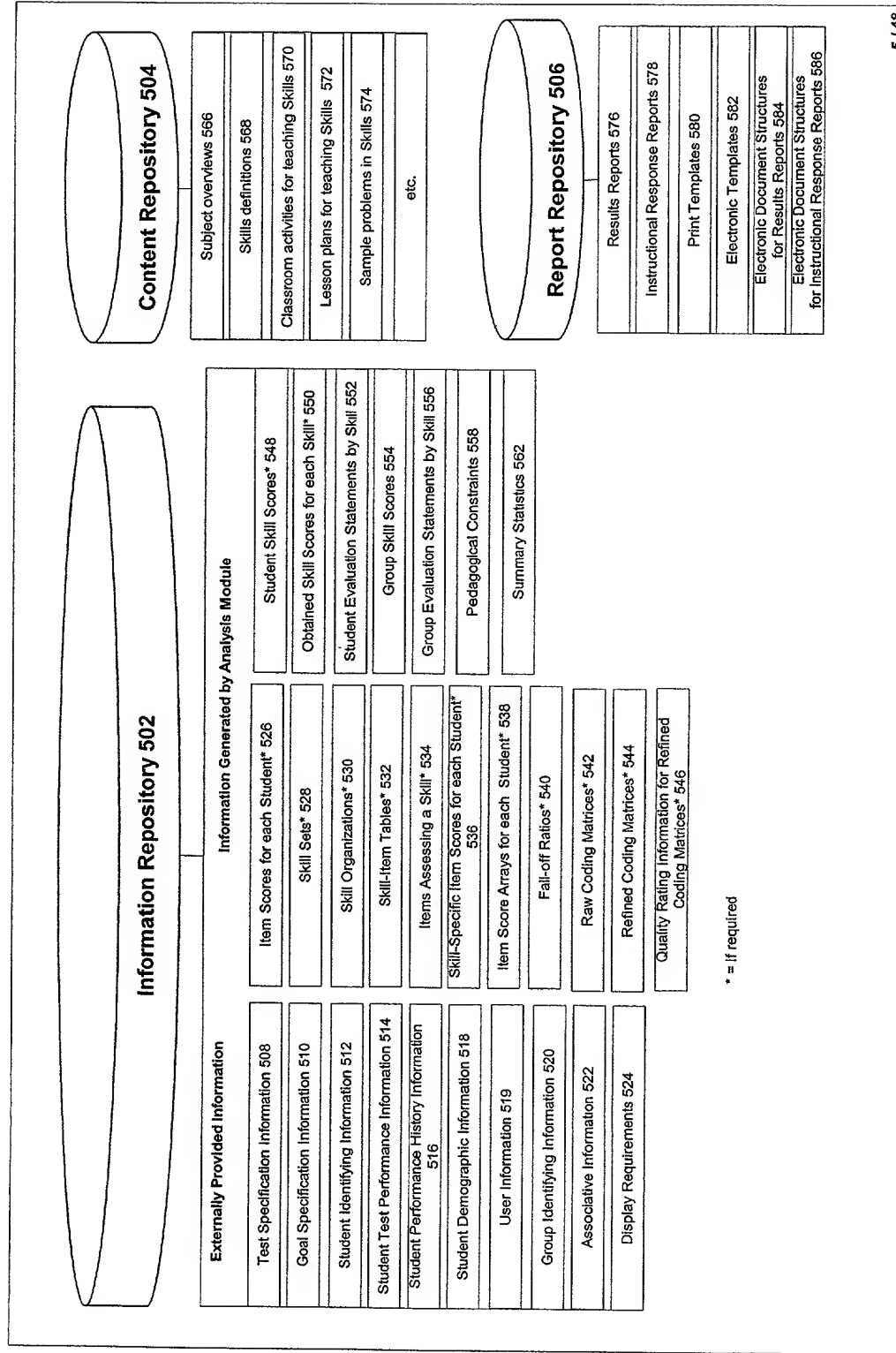
**FIGURE 3**  
*Flowchart of the System*



**FIGURE 4**  
*Diagram of the Operation Components of the Intake Module*



**FIGURE 5**  
*Diagram of the Data Storage Module*



**FIGURE 6**  
Flowchart of the Analysis Module

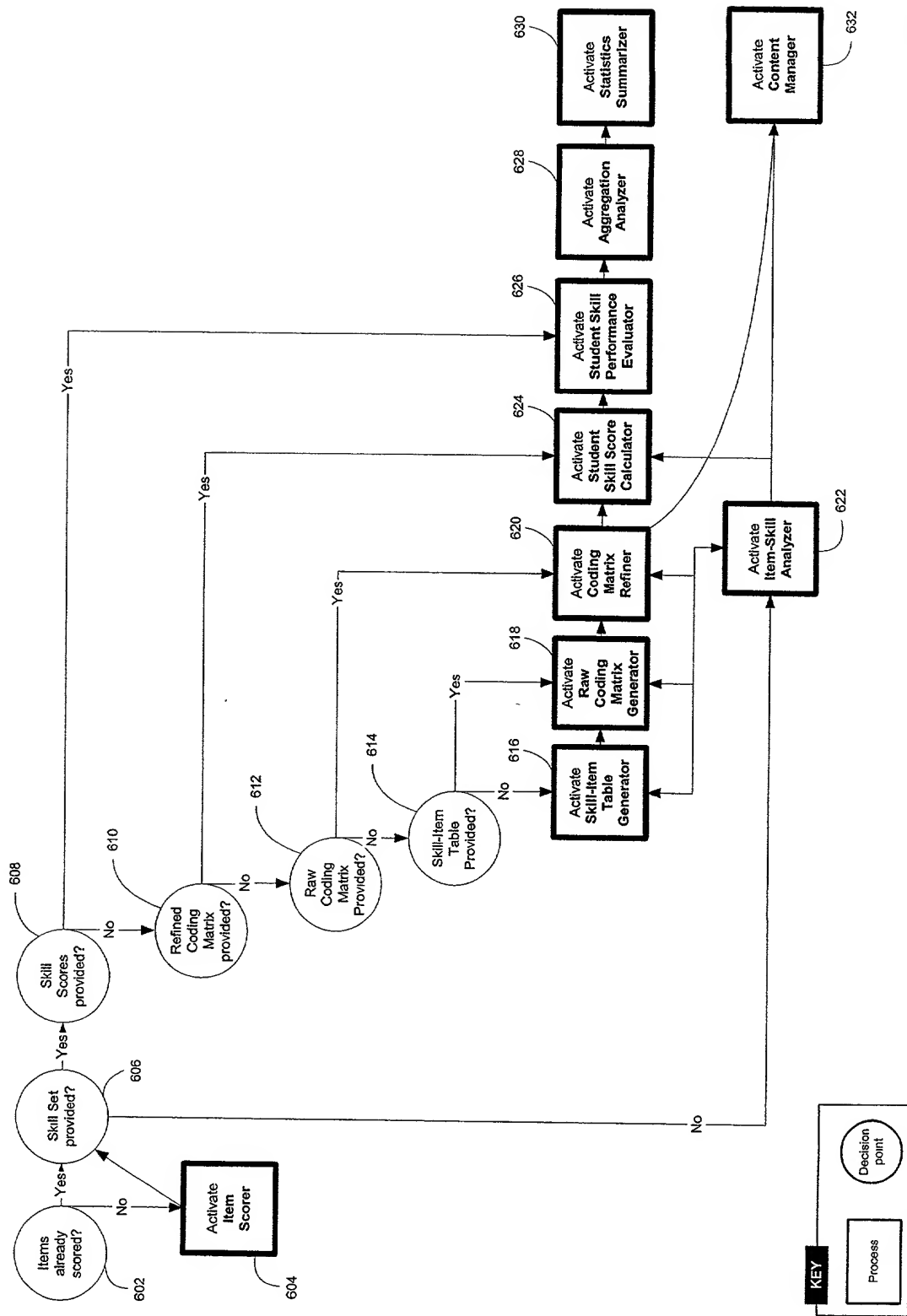
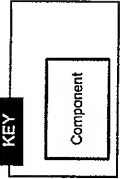
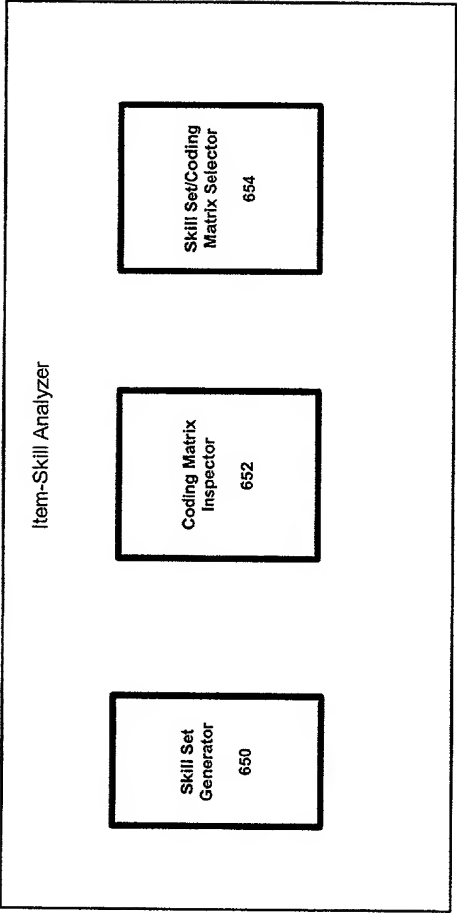
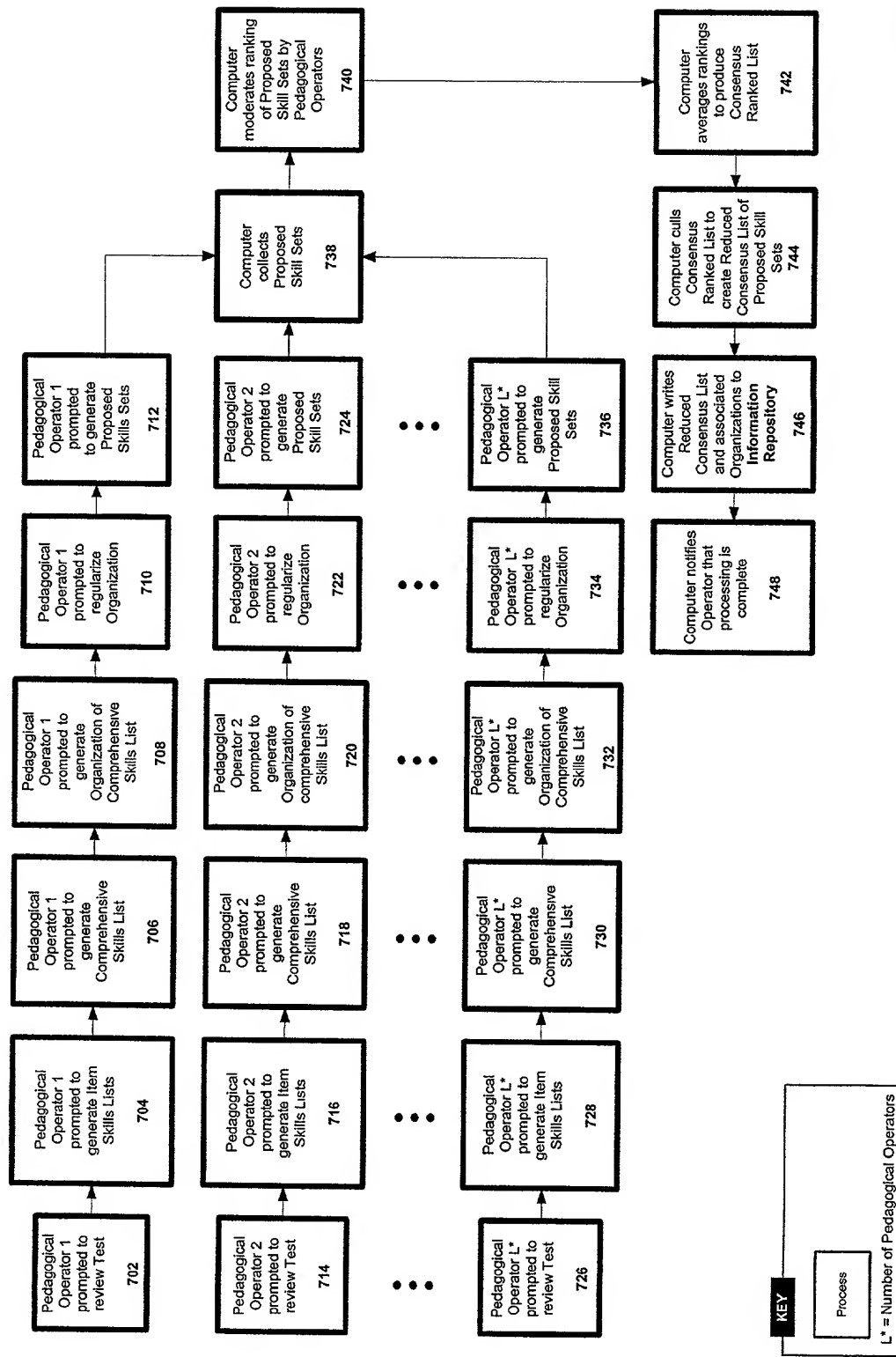


FIGURE 6A  
Block Diagram of Item-Skill Analyzer

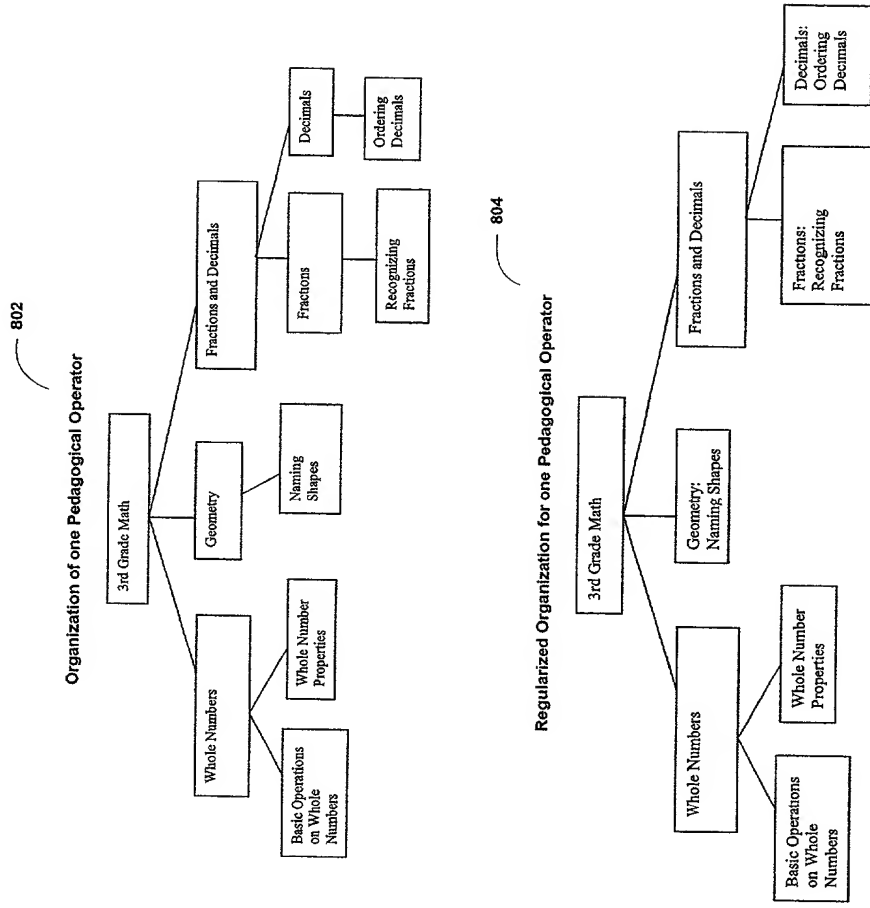


**FIGURE 7**  
*Flowchart of the Skill Set Generator*





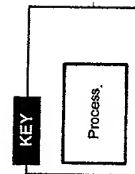
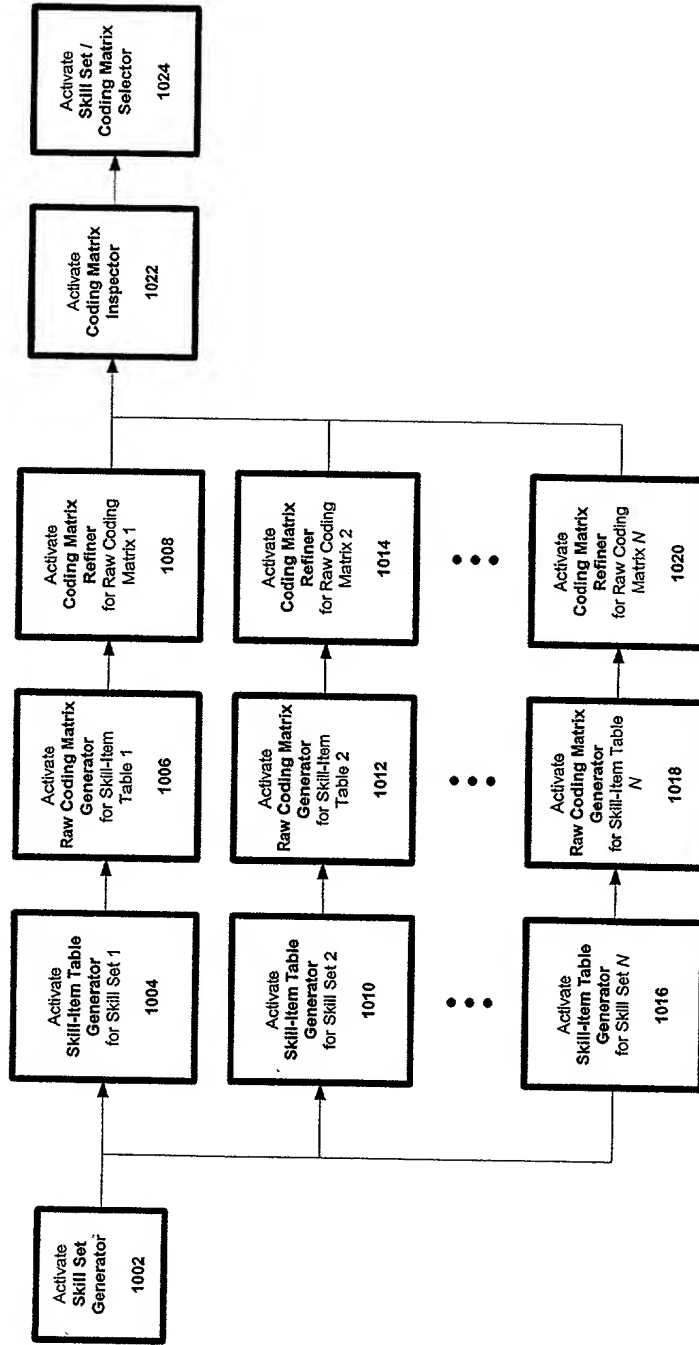
**FIGURE 8**  
*Diagram of Skill Organizations*



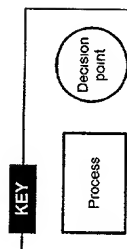
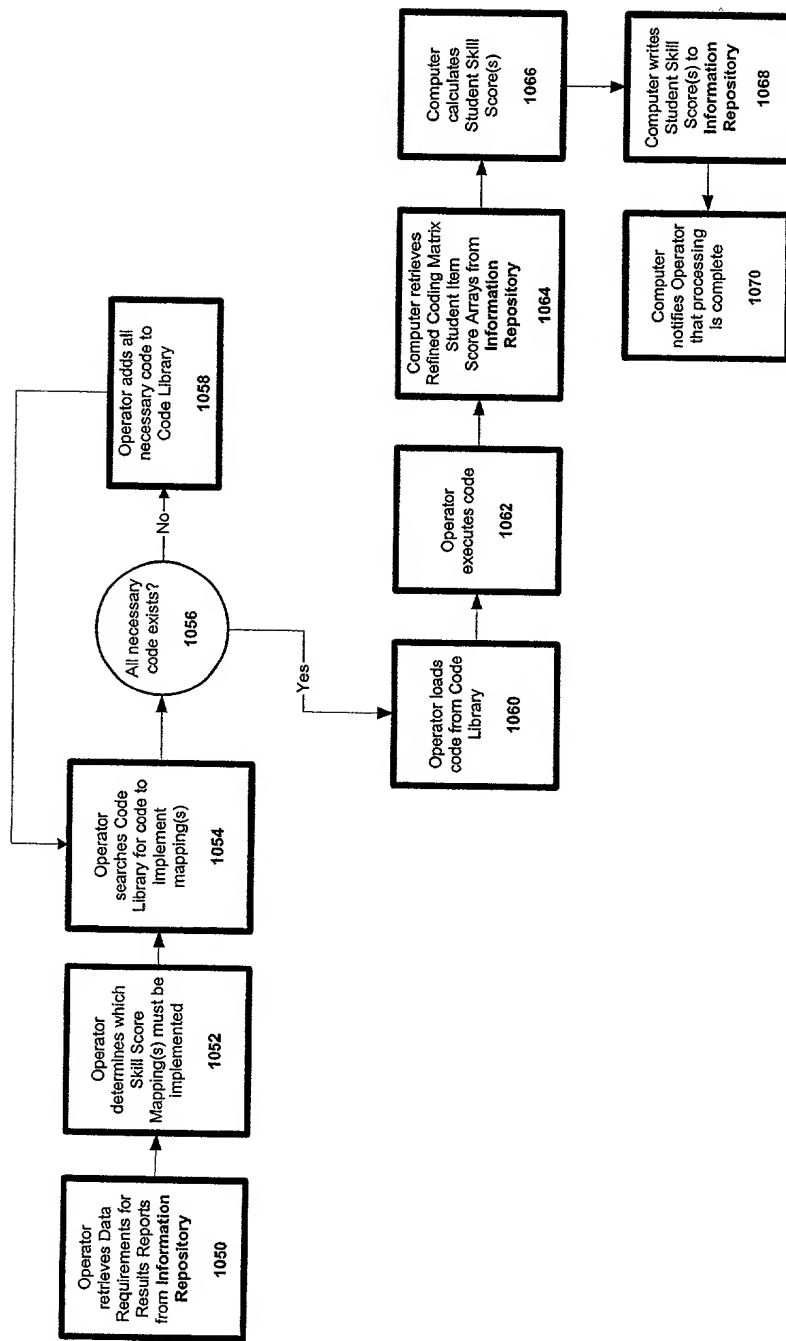
## FIGURE 9



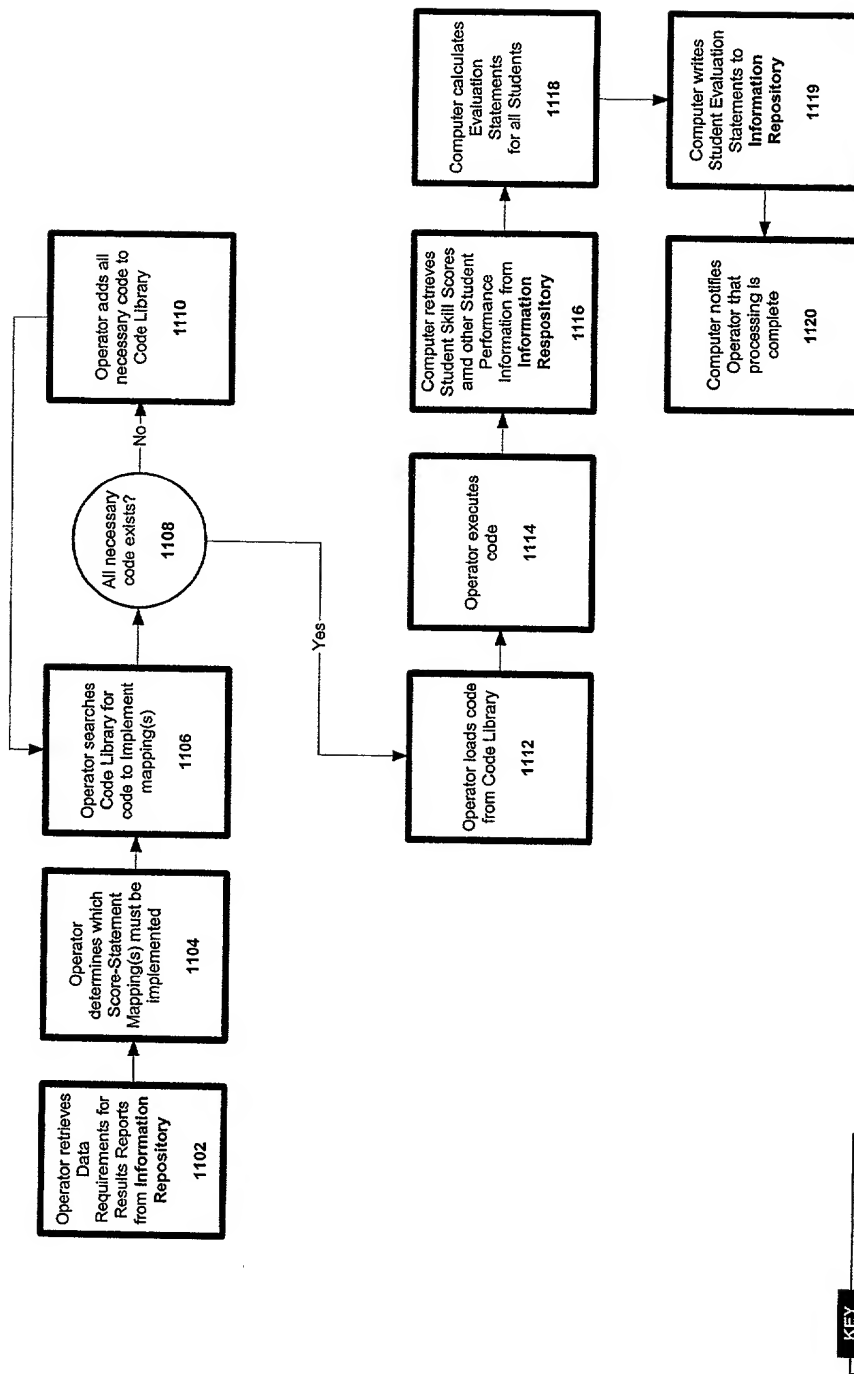
**FIGURE 10**  
*Flowchart of the Item-Skill Analyzer*



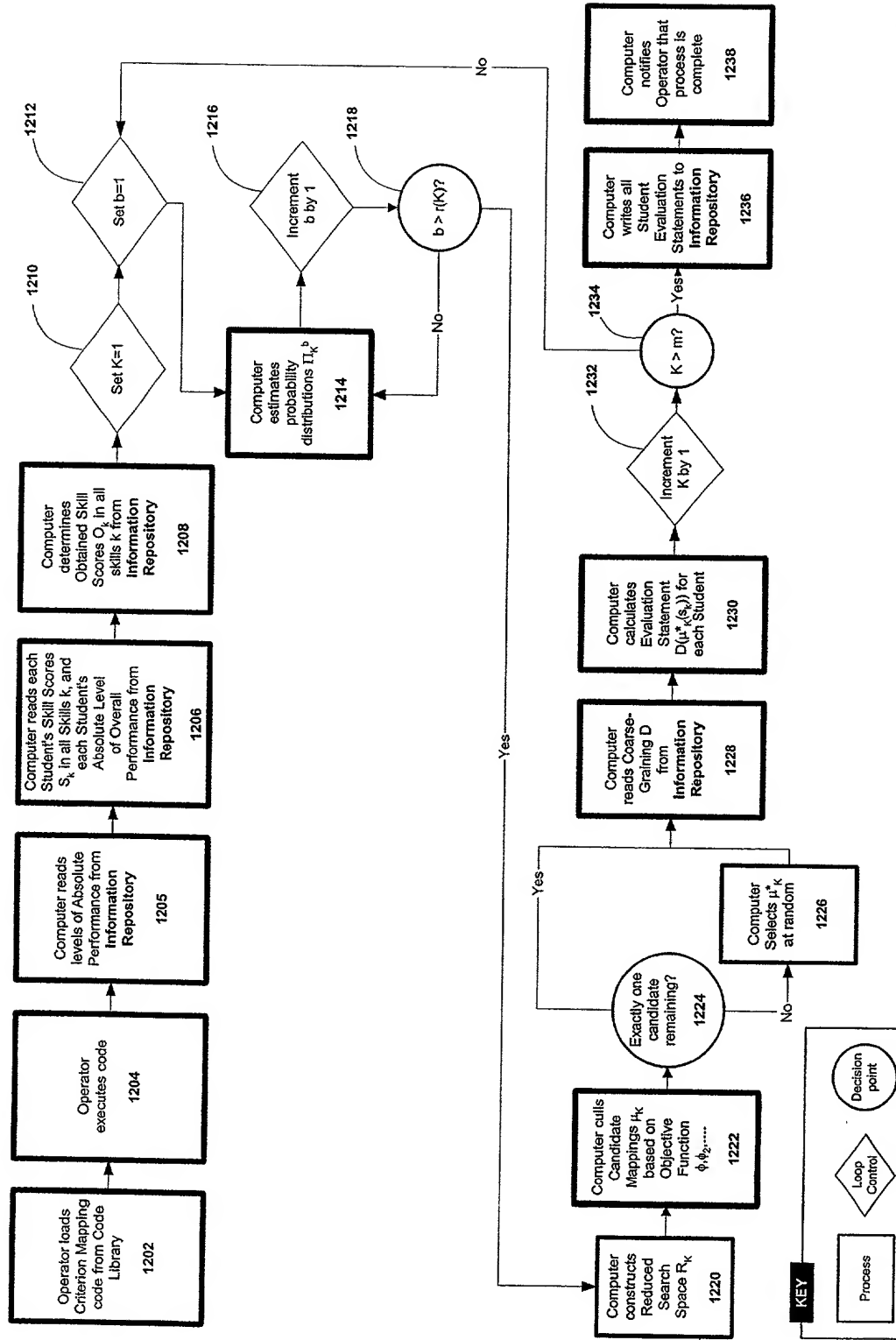
**FIGURE 10A**  
*Flowchart of the Student Skill Score Calculator*



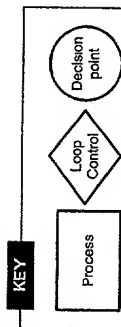
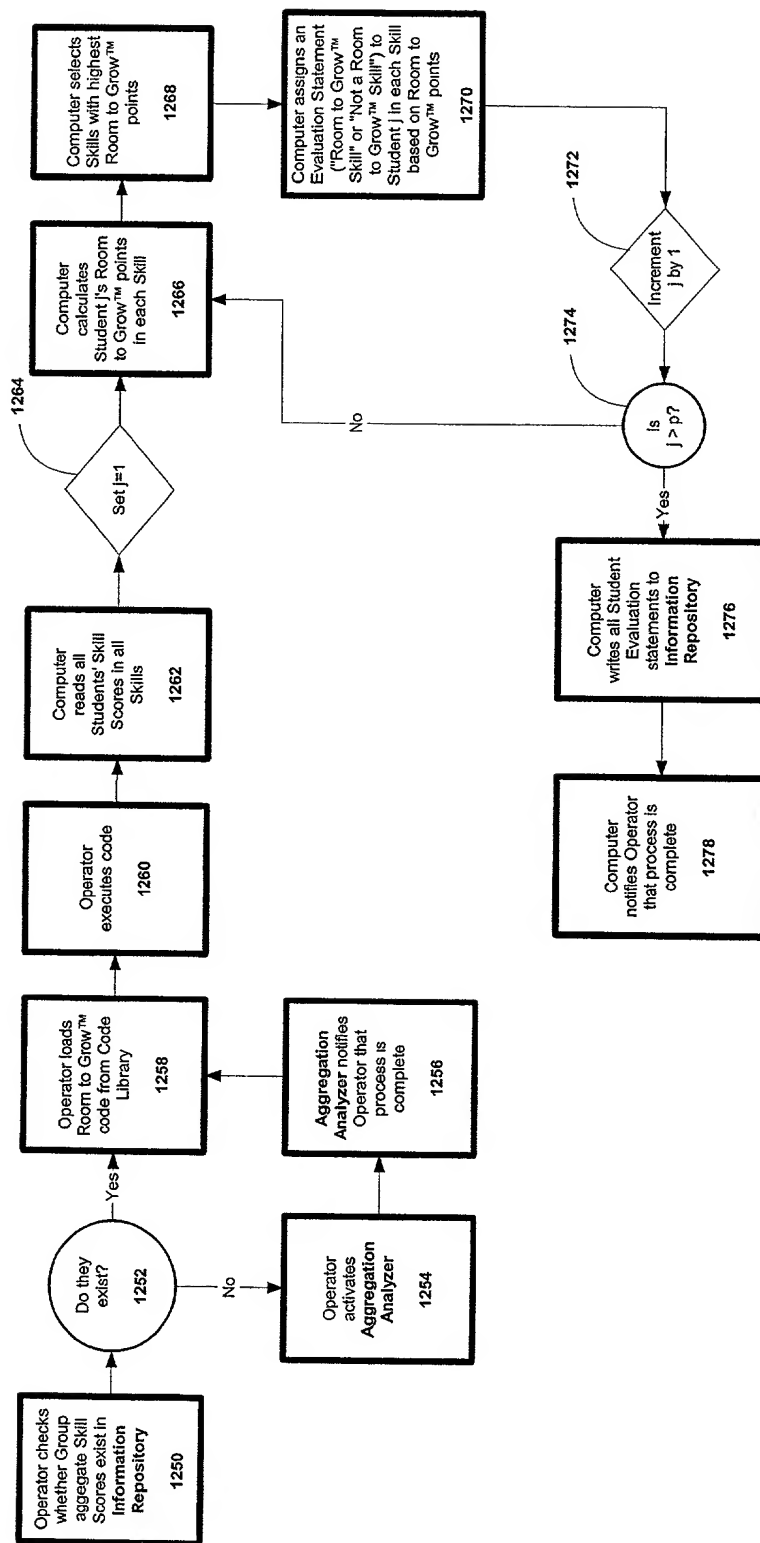
**FIGURE 11**  
*Flowchart of the Student Skill Performance Evaluator*



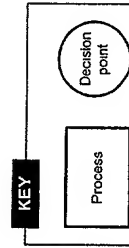
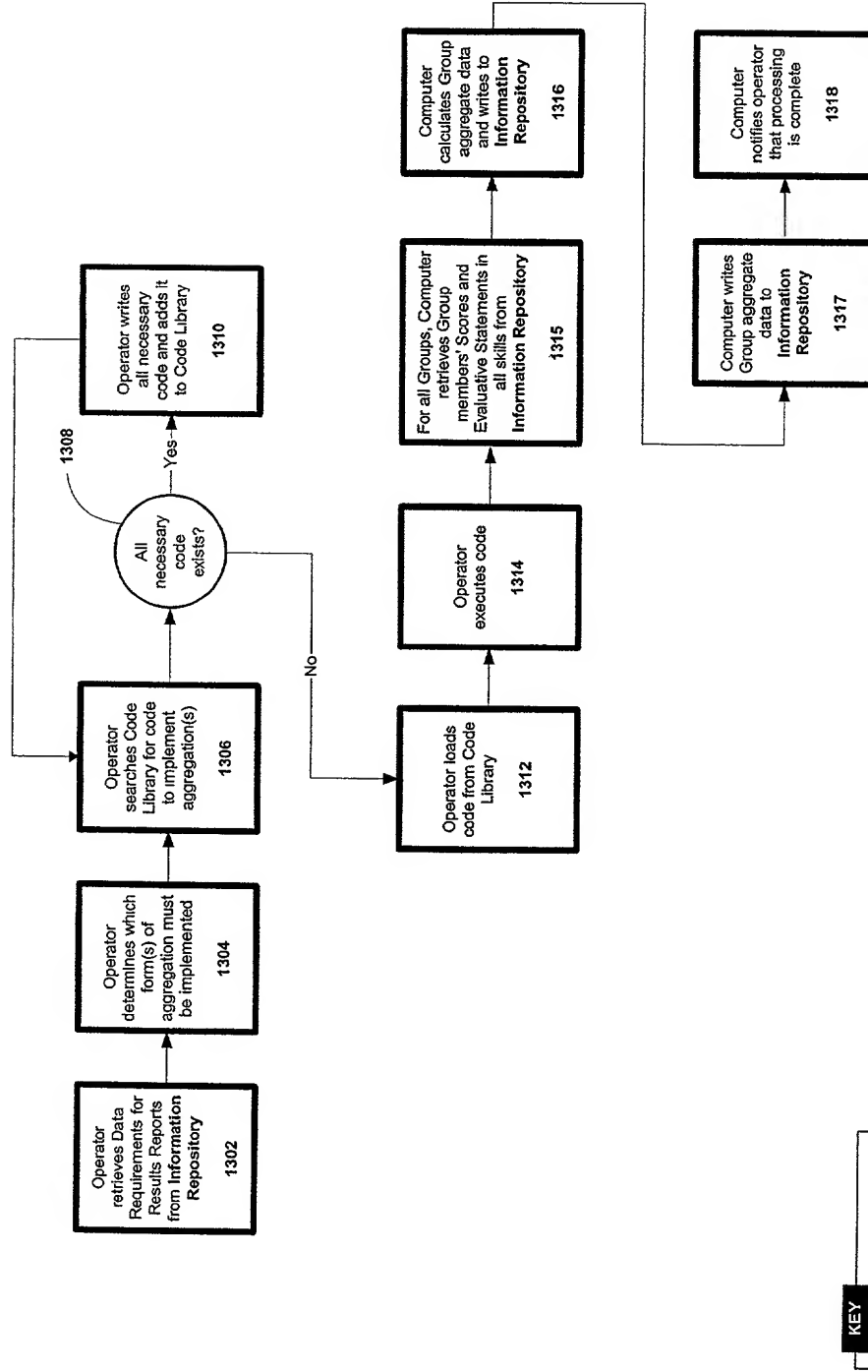
**FIGURE 12**  
*Flowchart of Criterion Mapping Execution*



**FIGURE 12A**  
*Flowchart of a Room to Grow™ Prioritization*



**FIGURE 13**  
*Flowchart of the Aggregation Analyzer*





**FIGURE 14**  
*Flowchart of Utility Aggregation*

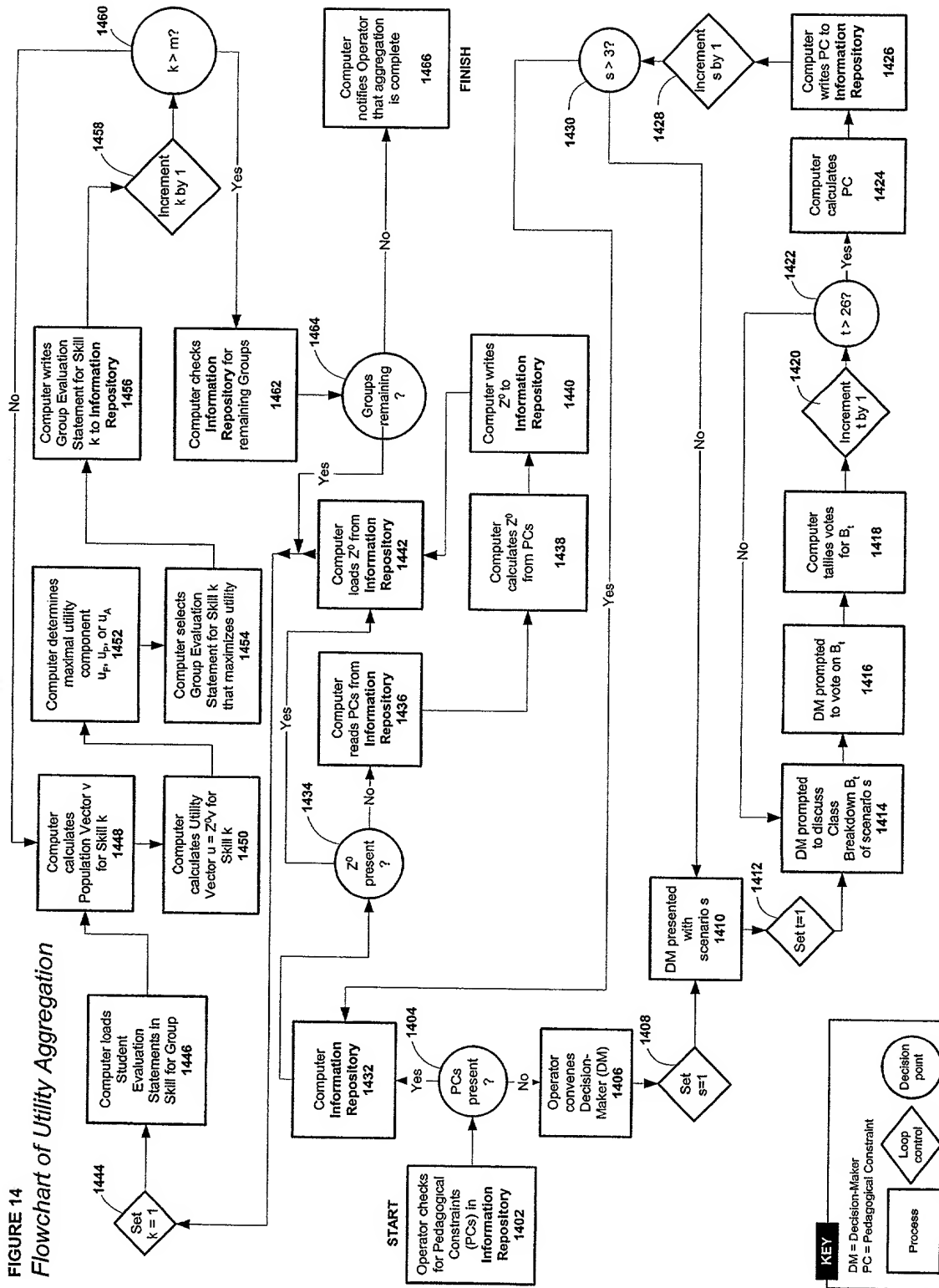


FIGURE 14A  
*Class Breakdowns for First Scenario*

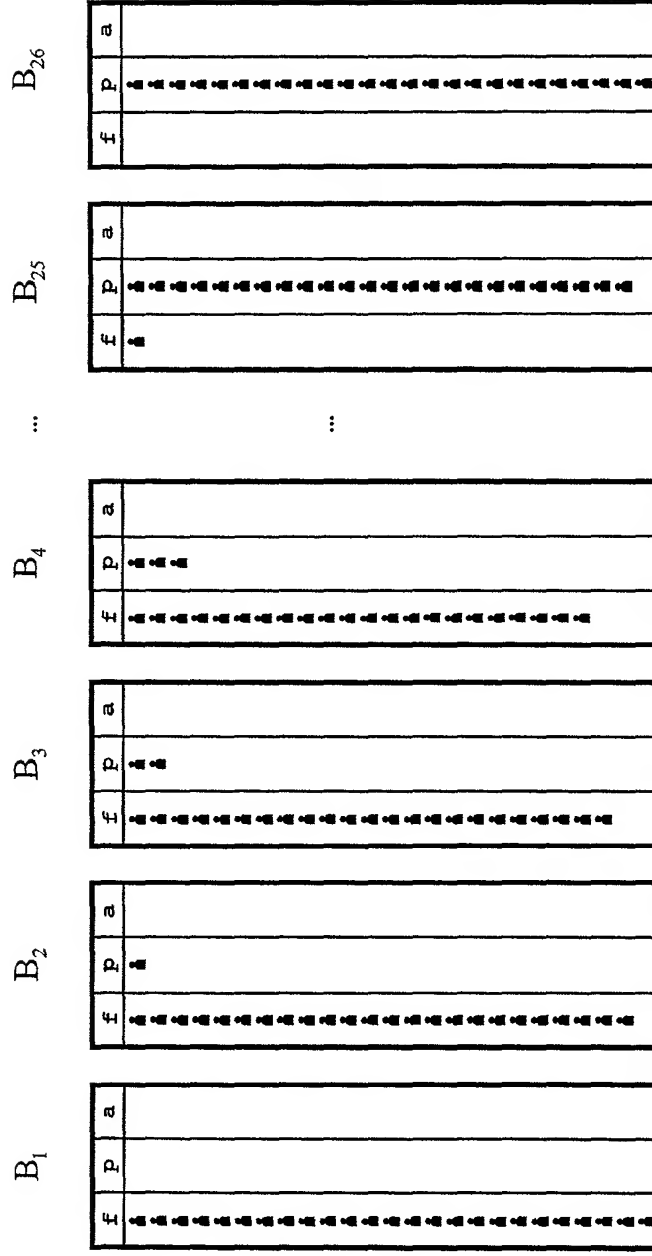
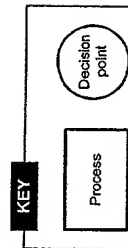
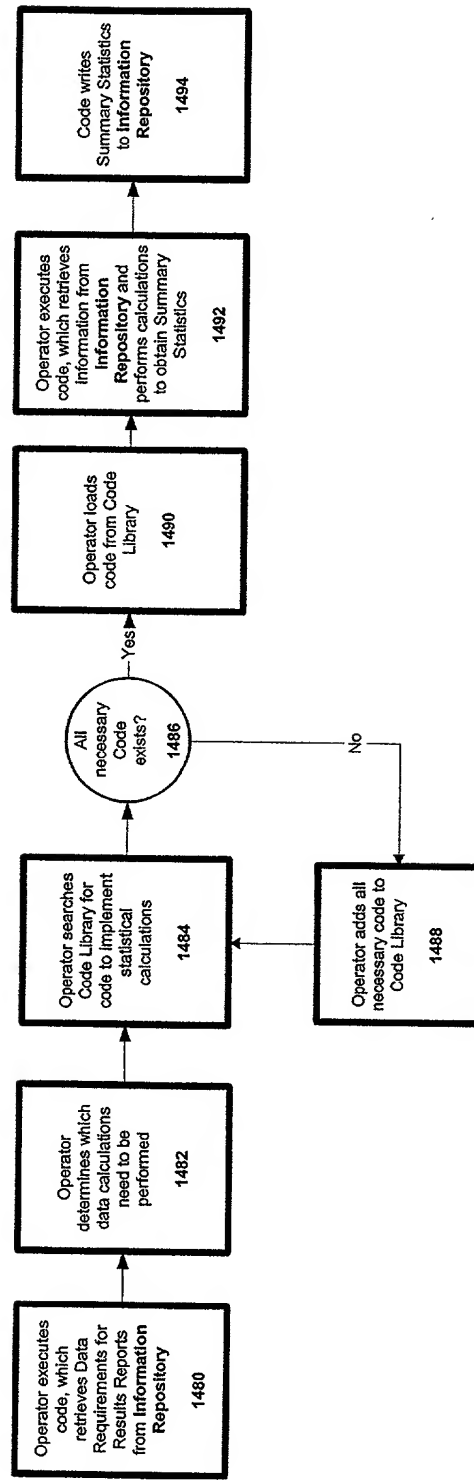




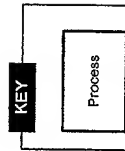
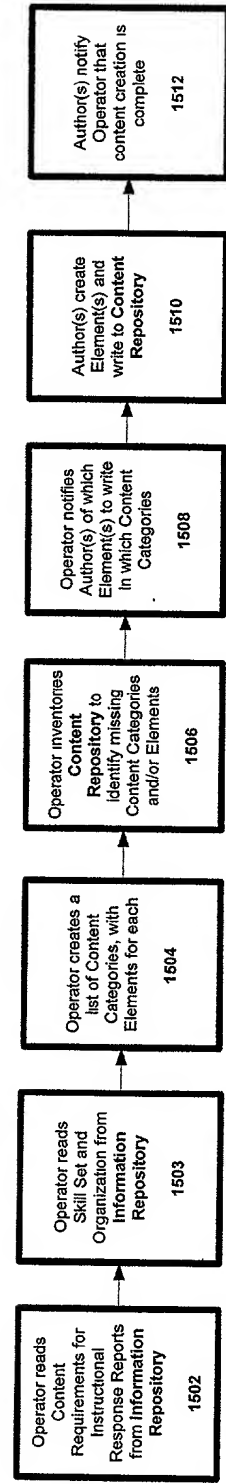
FIGURE 14C  
*Class Breakdowns for Third Scenario*

$B_1$	$B_2$	$B_3$	$B_4$	...	$B_{25}$	$B_{26}$																																				
<table><tr><td>f</td><td></td></tr><tr><td>p</td><td></td></tr><tr><td>a</td><td>.....</td></tr></table>	f		p		a	.....	<table><tr><td>f</td><td>1</td></tr><tr><td>p</td><td></td></tr><tr><td>a</td><td>.....</td></tr></table>	f	1	p		a	.....	<table><tr><td>f</td><td>1</td></tr><tr><td>p</td><td></td></tr><tr><td>a</td><td>.....</td></tr></table>	f	1	p		a	.....	<table><tr><td>f</td><td>1</td></tr><tr><td>p</td><td></td></tr><tr><td>a</td><td>.....</td></tr></table>	f	1	p		a	.....	...	<table><tr><td>f</td><td>.....</td></tr><tr><td>p</td><td></td></tr><tr><td>a</td><td></td></tr></table>	f	.....	p		a		<table><tr><td>f</td><td>.....</td></tr><tr><td>p</td><td></td></tr><tr><td>a</td><td></td></tr></table>	f	.....	p		a	
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**FIGURE 14D**  
*Flowchart of the Statistics Summarizer*



**FIGURE 15**  
*Flowchart of the Content Manager*



[illegible]

**FIGURE 17**  
*Diagrams of a Data Display Requirement  
 and an Electronic Document Structure*

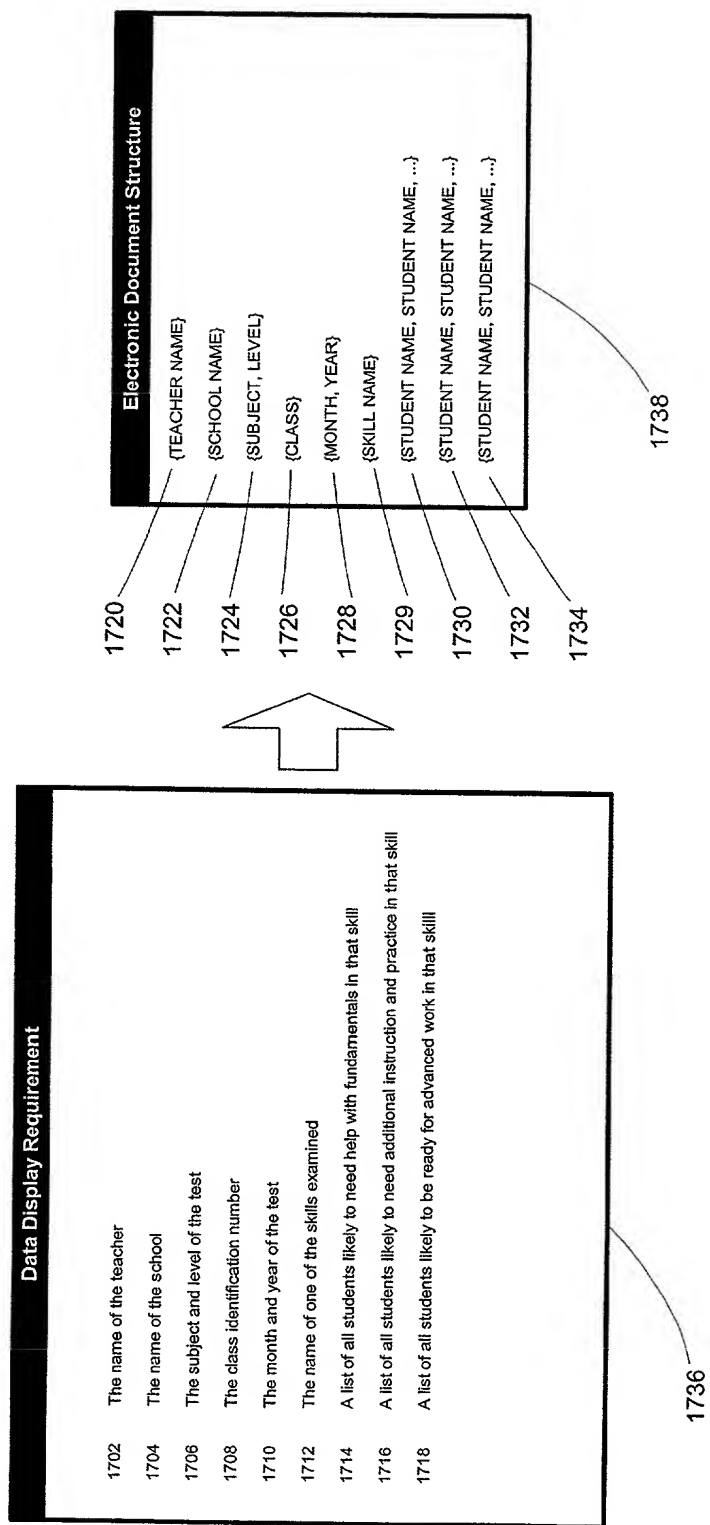




FIGURE 18  
Diagram of a Portion of an Instructional Response Report

1804 1806

```

- <strategies>
  - <fundamentals>
  - <practice>
    - <introduction>
      <p>If your students need some additional instruction and practice, you can try some of
        the activity ideas listed below.</p>
    </introduction>
    - <activity>
      - <description>
        <p>Ask students to think of a few situations in which they might want to add the same
          number over and over. Some ideas to get them started might be:</p>
        - <list>
          <listitem>counting the total number of wheels in a group of 8 cars</listitem>
          <listitem>counting the total number of keys on 5 calculators of the same
            type</listitem>
          <listitem>counting the total number of pencils in 10 boxes of pencils</listitem>
        </list>
        <p>Then have them make up a word problem to go with each situation, and solve a
          few of these problems.</p>
      </description>
    </activity>
    - <activity>
      - <description>
        <p>Ask students to think of a few situations in which they might count things in
          arrays. Here are some arrays they might use.</p>
        - <list>
          <listitem>seats on a bus</listitem>
          <listitem>windows on a building</listitem>
        </list>
        <p>Then have them make up a word problem to go with each situation, and solve a
          few of these problems.</p>
      </description>
    </activity>
    <activity>
      - <description>
        <p>Ask students to think of a few "times as many" situations. Here are some ideas to
          get them started.</p>
        - <list>
          <listitem>One store has 5 times as many customers as another store.</listitem>
          <listitem>One team has 3 times as many points as another team.</listitem>
          <listitem>One car costs 4 times as much as another car.</listitem>
        </list>
        <p>Then have them make up a word problem to go with each situation, and solve a
          few of these problems.</p>
      </description>
    </activity>
    - <activity>
      - <description>
        <p>Ask students to think of a few situations in which they might break a big group
          into smaller groups. Here are some ideas to get them started.</p>
        - <list>
          <listitem>Spread 100 seeds evenly along 10 rows in the garden.</listitem>
          <listitem>Split the class into 4 equal teams to play a game.</listitem>
        </list>
        <p>Then have them make up a word problem to go with each situation, and solve a
          few of these problems.</p>
      </description>
    </activity>
  </practice>
  <advanced>
</strategies>

```

1802

1808

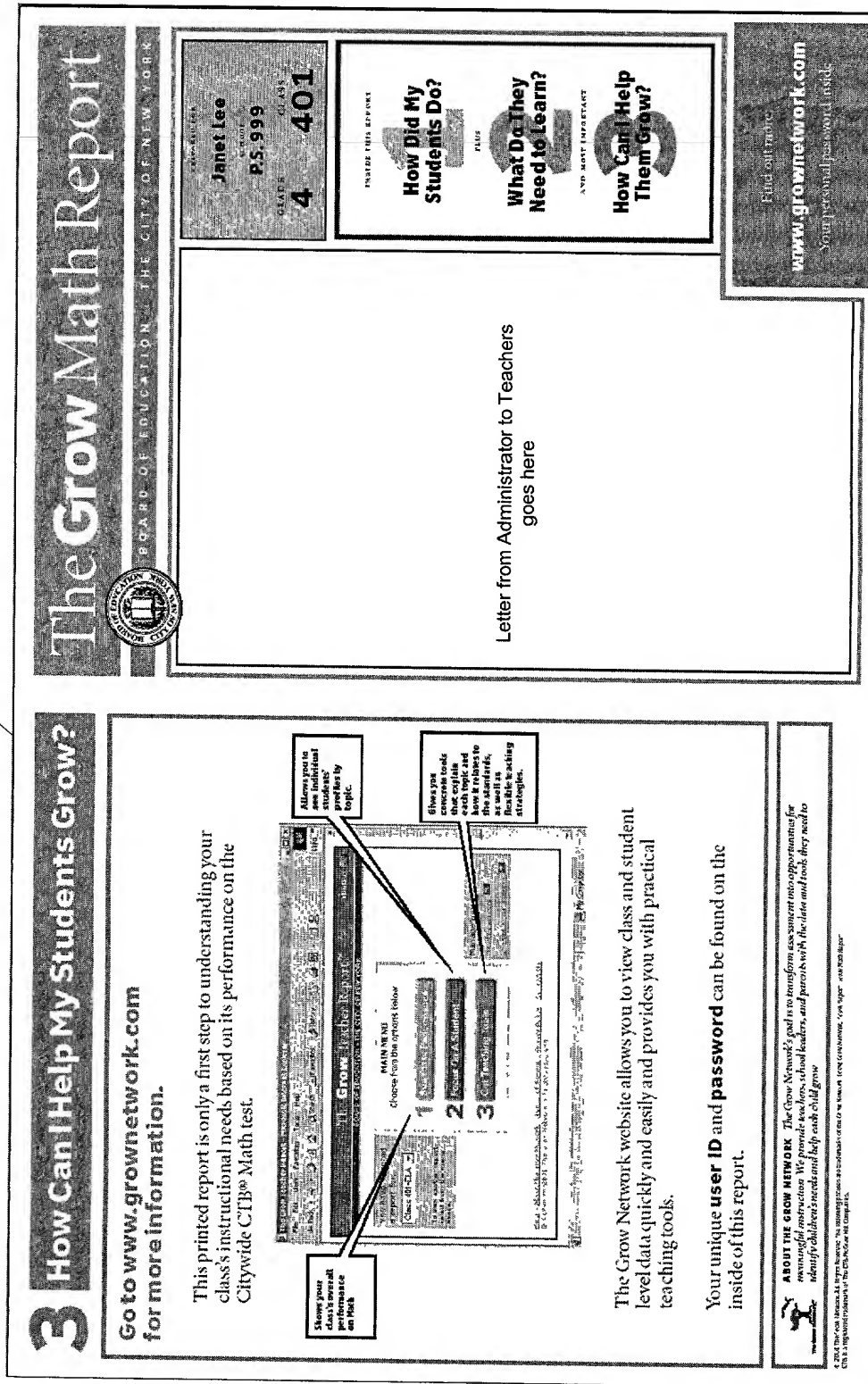
FIGURE 19 (page 1 of 2)

Diagram of a Sample Printed Report

PAGE 4

PAGE 1

1902

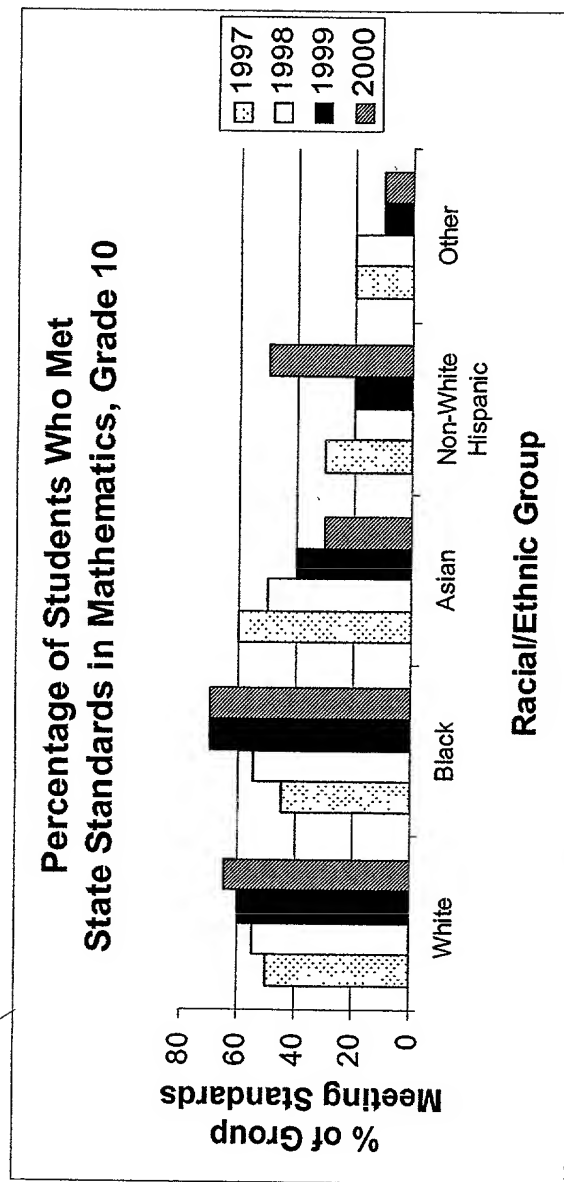


Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

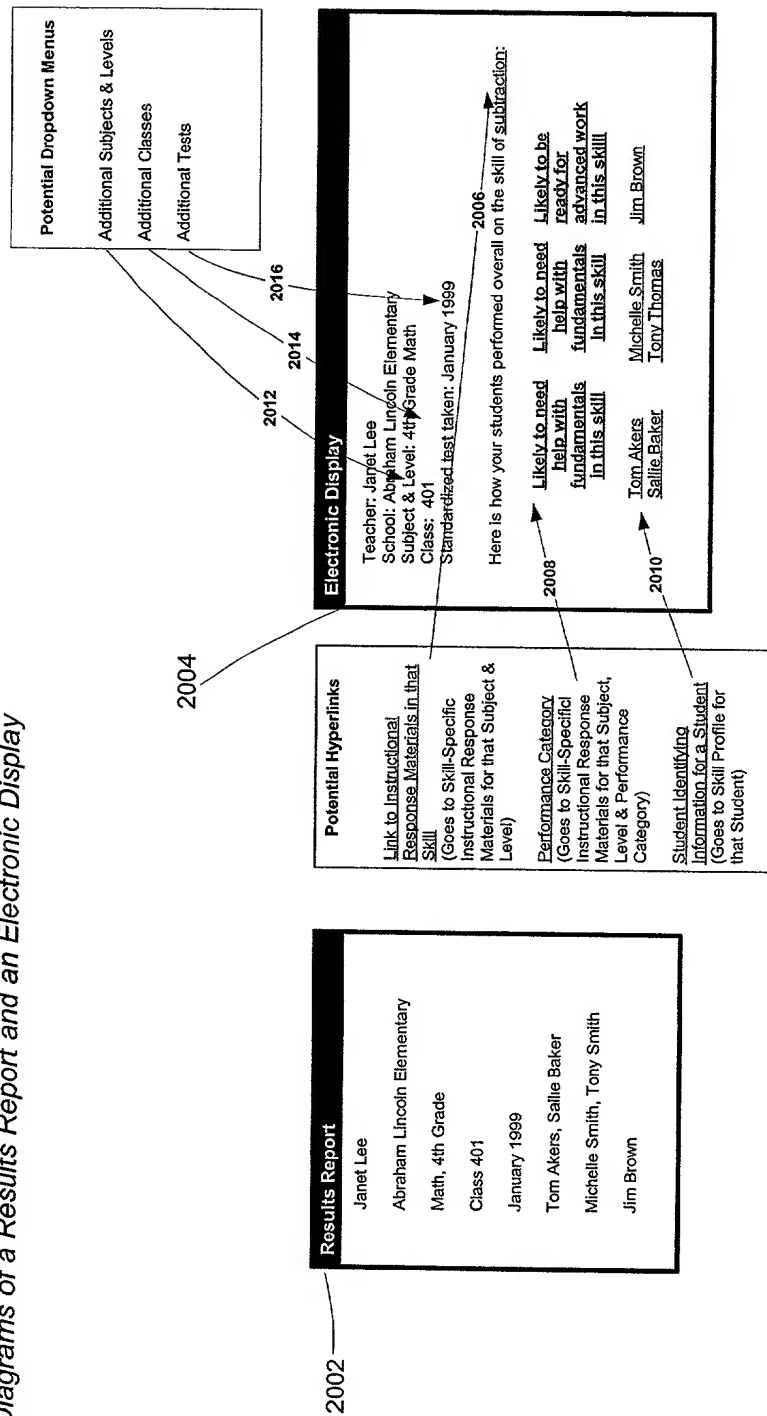


**FIGURE 19A**  
*Diagram of a Complex Data Display in Print*

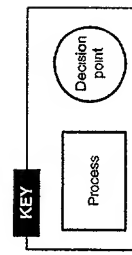
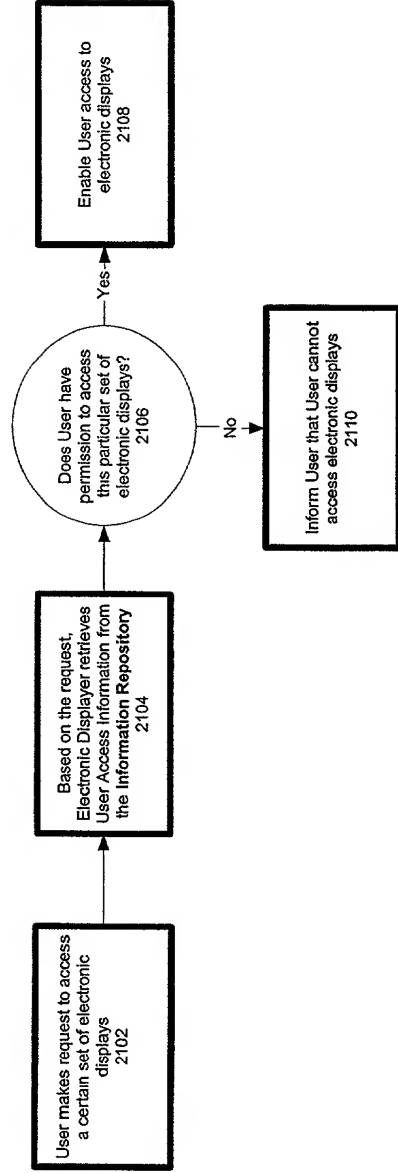
1952



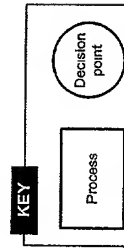
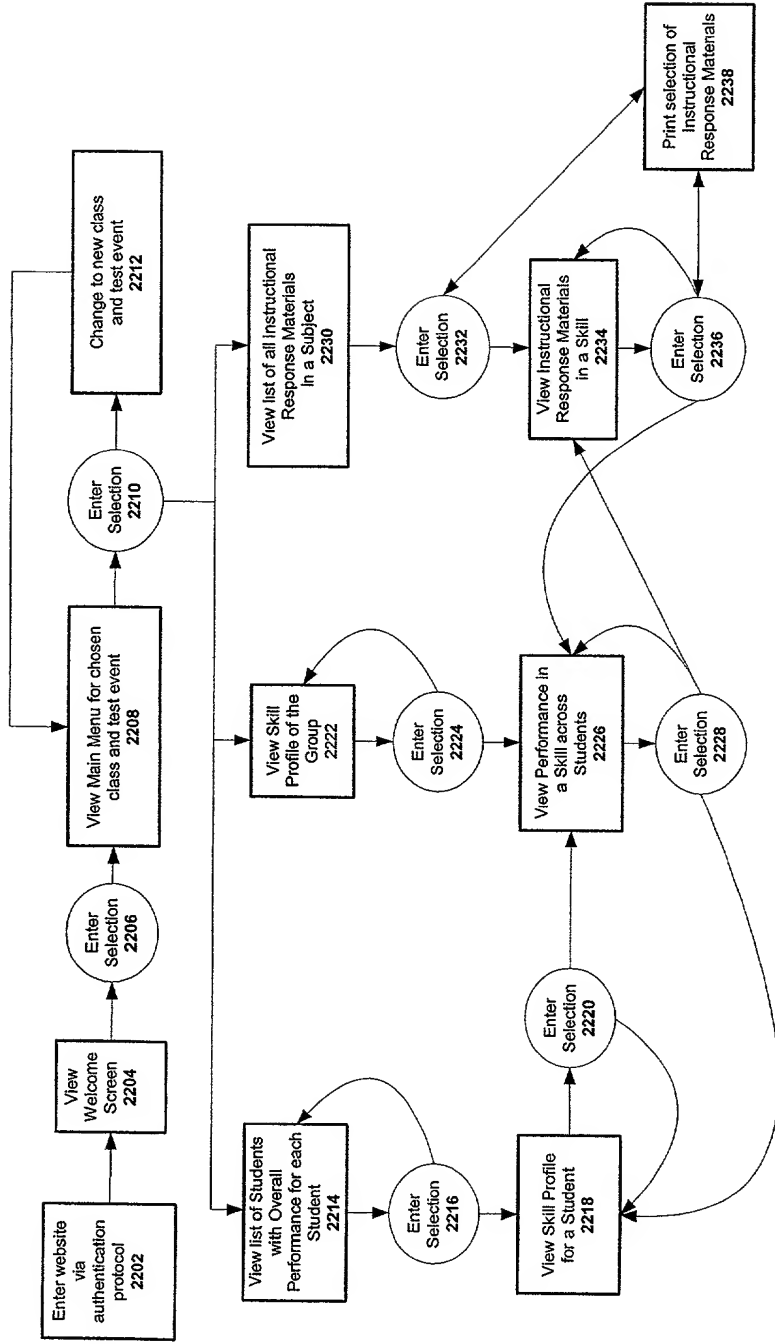
**FIGURE 20**  
*Diagrams of a Results Report and an Electronic Display*



**FIGURE 21**  
*Flowchart of the User Authentication Process*



**FIGURE 22**  
*Flowchart of a Display Website*



In addition to the linkages shown here, all "Enter Selection" decision points allow User to:

- \* Return to Main Menu
- \* Go to help and general information screens
- \* Change user authentication information
- \* Log out

FIGURE 23  
Diagram of a "Welcome" Display

2302

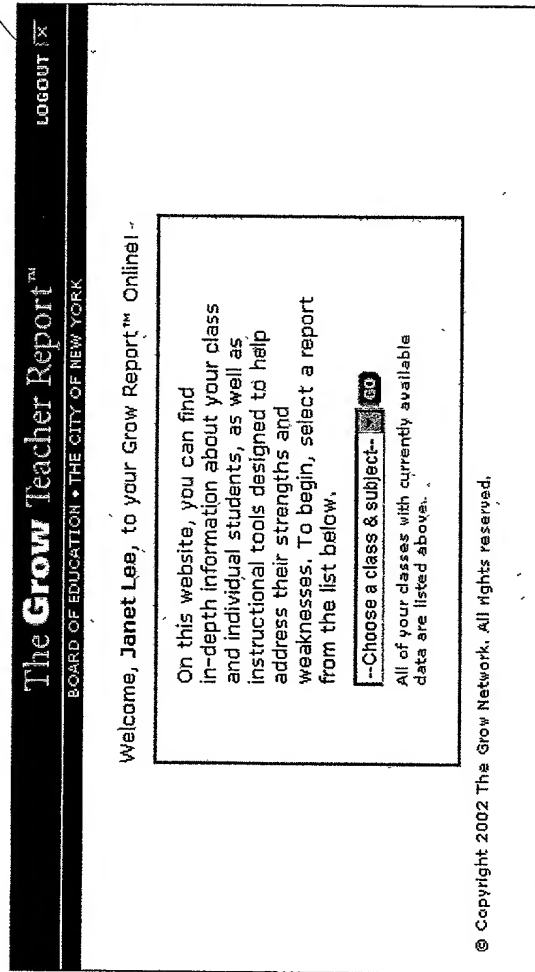




FIGURE 24  
Diagram of a "Main Menu" Display

2402

<b>The Grow Teacher Report™</b>		<a href="#">Logout</a>
BOARD OF EDUCATION • THE CITY OF NEW YORK		
You have selected a report for: <b>99999-Class 402-MATH (4)</b>	<b>MAIN MENU</b> <b>99999 - Grade 4 - MATH</b> Choose from the options below: <div> <div>1 See Class Performance</div> <div>2 Focus on a Student</div> <div>3 Get Teaching Tools</div> </div>	<b>February 4, 2002</b> We have updated the Site Information page. Click <a href="#">here</a> to go there now. <a href="#">Help &amp; Support</a> <a href="#">Modify password</a> <a href="#">Change e-mail address</a>
Help & Support : <a href="#">About the Grow Network</a> : <a href="#">Terms of Service</a> : <a href="#">Security &amp; Privacy Policy</a> : <a href="#">Contact Us</a> © Copyright 2002 The Grow Network. All rights reserved.		

FIGURE 25  
Diagram of a "Students' Overall Performance" Display

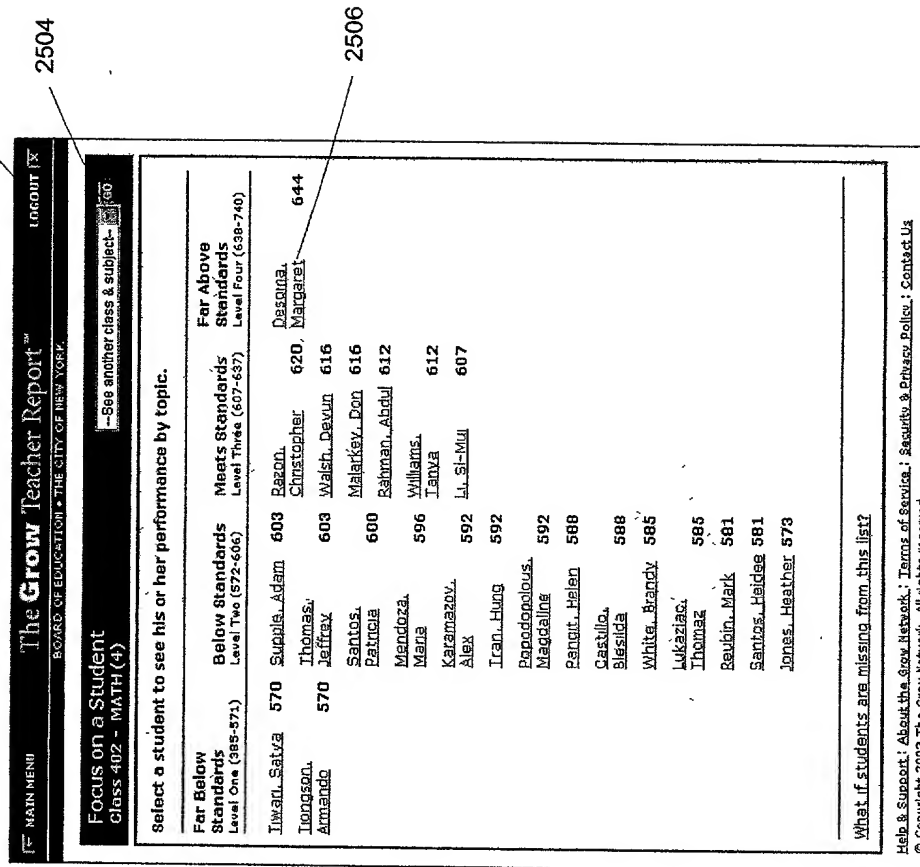


FIGURE 26

Diagram of a "Skill Profile of a Student" Display

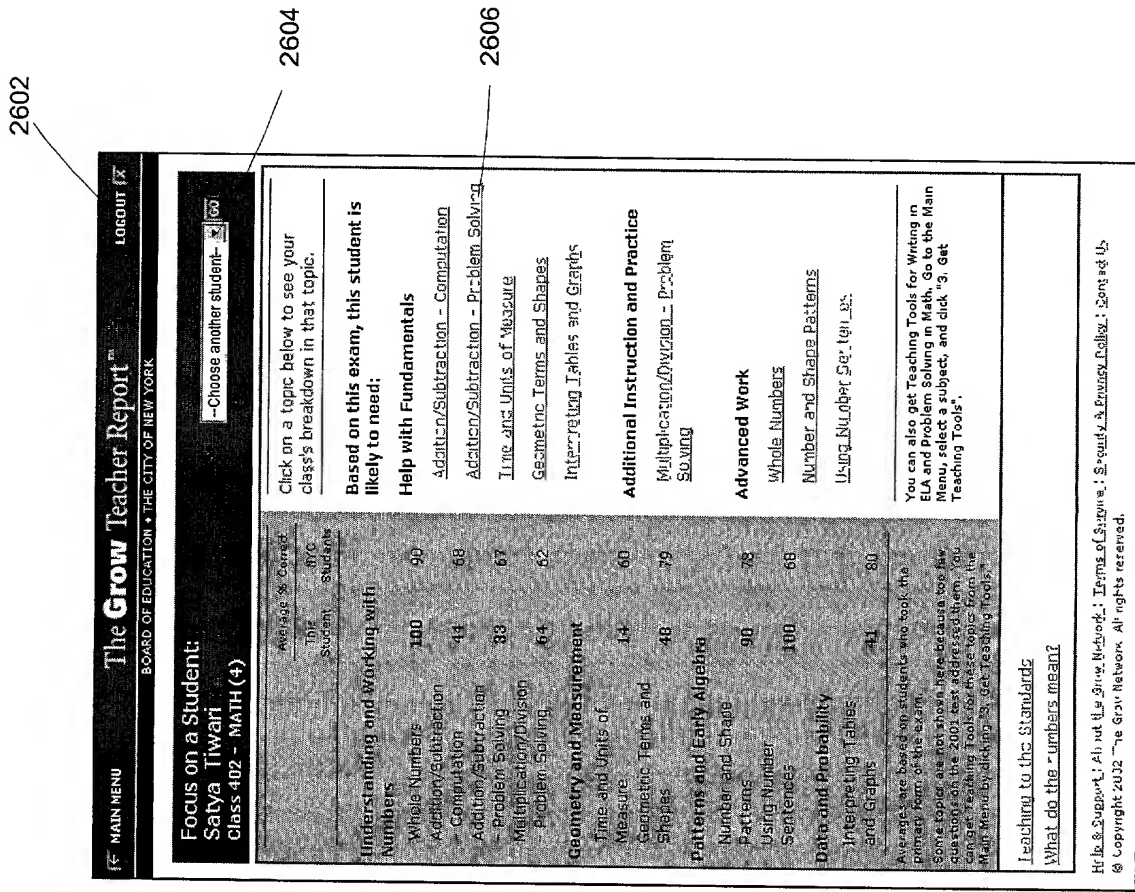


FIGURE 27

Diagram of a "Skill Profile of a Group" Display

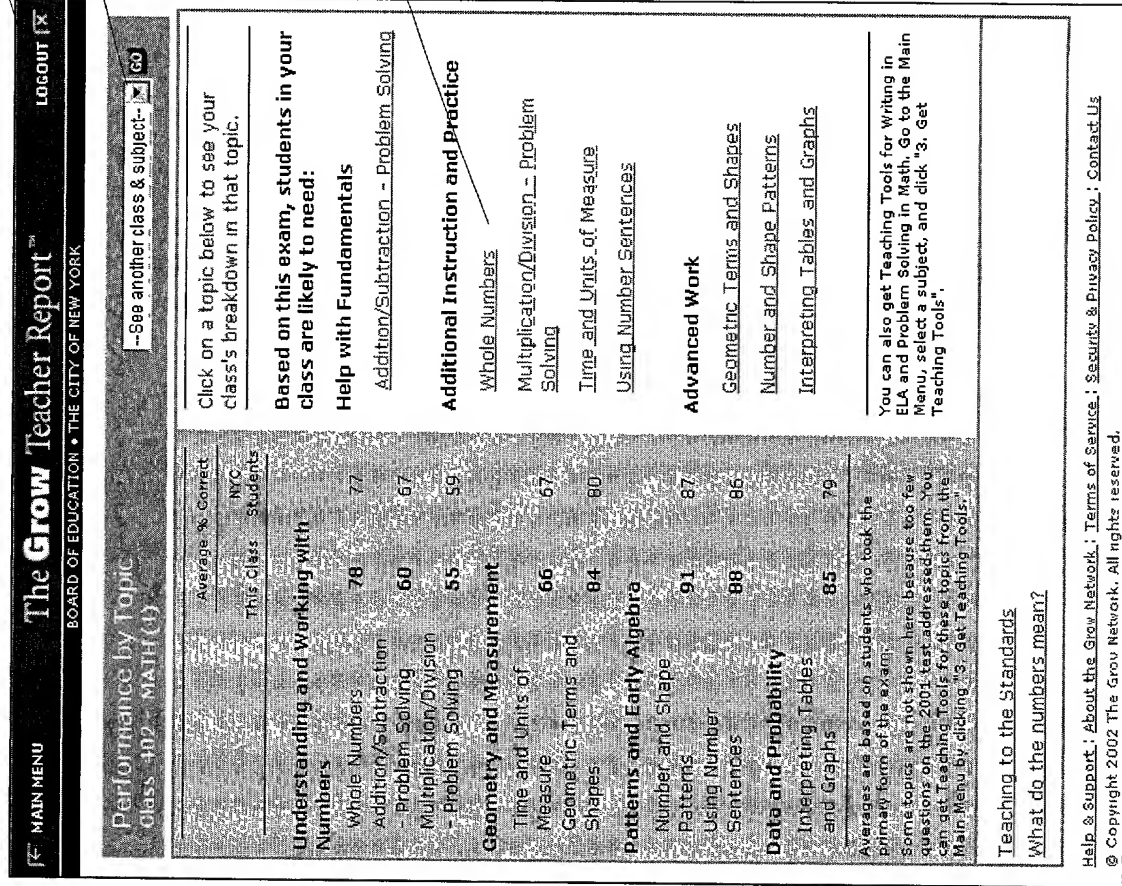
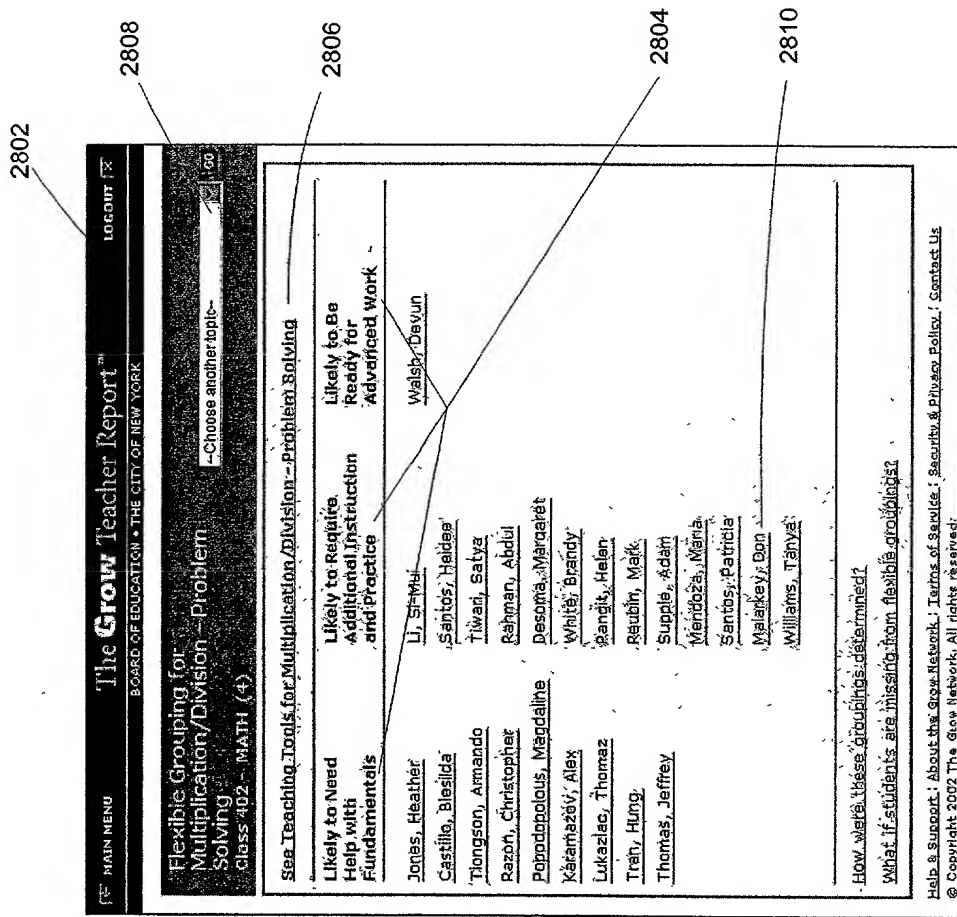


FIGURE 28  
Diagram of a "Performance in a Skill across Students" Display



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Get Teaching Tools™ for all Topics  
Class 402 - MATH (4)

Click on a topic to see detailed instructional information.

<u>Addition/Subtraction - Computation</u> 1. Facts and Computation <u>Addition/Subtraction - Problem Solving</u> 1. Addition Situations 2. Subtraction Situations 3. Situations With a Twist <u>Fractions and Decimals</u> 1. Understanding Fractions 2. Understanding Decimals 3. Ordering Fractions and Decimals <u>Geometric Terms and Shapes</u> 1. Identifying and Imagining Shapes 2. Shapes That Look Alike 3. Moving Shapes Around <u>Interpreting Tables and Graphs</u> 1. Interpreting Tables 2. Interpreting Graphs 3. Creating Tables and Graphs <u>Likely Outcomes</u> 1. Talking about probability 2. Finding the probability 3. Counting the number of combinations	<u>Multiplication and Division - Problem Solving</u> 1. Multiplication Situations 2. Division Situations 3. What To Do With Remainders 4. "Increasing Over Time" 5. Situations With a Twist <u>Number and Shape Patterns</u> 1. Exploring Sequences of Numbers 2. Exploring Sequences of Shapes 3. Exploring Geometric Patterns <u>Problem-Solving Strategies</u> 1. Making a Plan 2. Carrying out the Plan 3. Putting it into Words <u>Time and Units of Measure</u> 1. Basic Time and Money Skills 2. Clocks, Calendars, and Time 3. Units of Measure 4. Making Actual Measurements <u>Using Number Sentences</u> 1. What is a Number Sentence? 2. Understanding Number Sentences 3. Number Sentences and Problem Solving <u>Whole Numbers</u> 1. Place Value 2. Ordering Numbers 3. Rounding Numbers
---	---

FIGURE 29  
Diagram of a "Listing of Instructional Tools" Display

2902

FIGURE 30

Diagram of an "Instructional Tools" Display

3002

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**Teaching Tools for Fractions and Decimals**  
**Class 402 - MATH (4)**

**Contents**

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[2. Understanding Decimals](#)

[3. Ordering Fractions and Decimals](#)

**Activities**

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**Resources**

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**Introduction**

As students learn more and more about numbers, they recognize the need for numbers in between whole numbers. What if you want to share one cookie between two friends? How much should each person get? When we break groups or whole items into equal parts, we can create fractions and decimals. What part of the pizza has been eaten? What portion of the picture is shaded? Initially, students' experiences with fractions and decimals center around exploring part of a whole. The ability to work with fractions and decimals will expand the range of problems that students can solve.

**The Essentials of Fractions and Decimals**

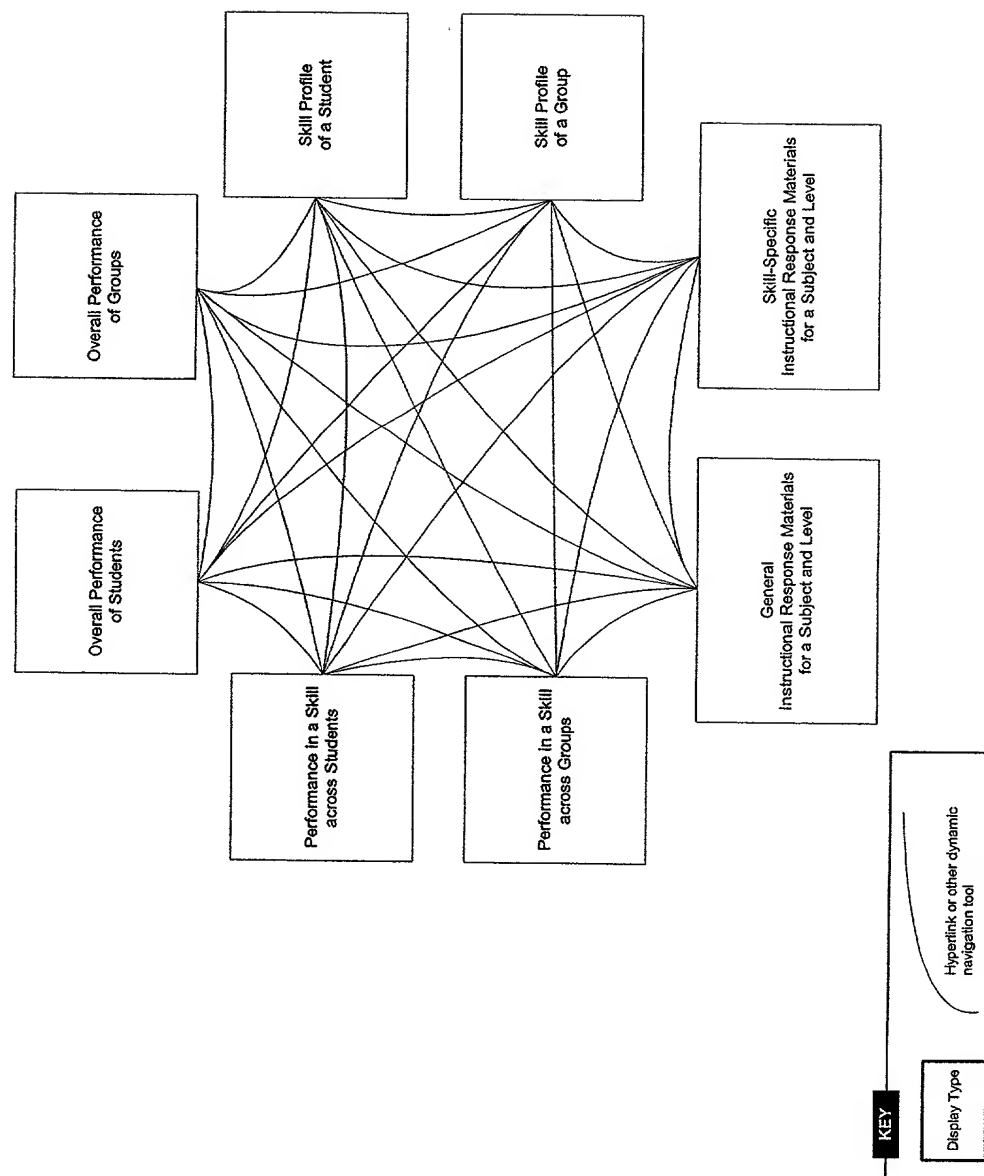
1. Understanding Fractions
2. Understanding Decimals
3. Ordering Fractions and Decimals

[NEXT >](#)

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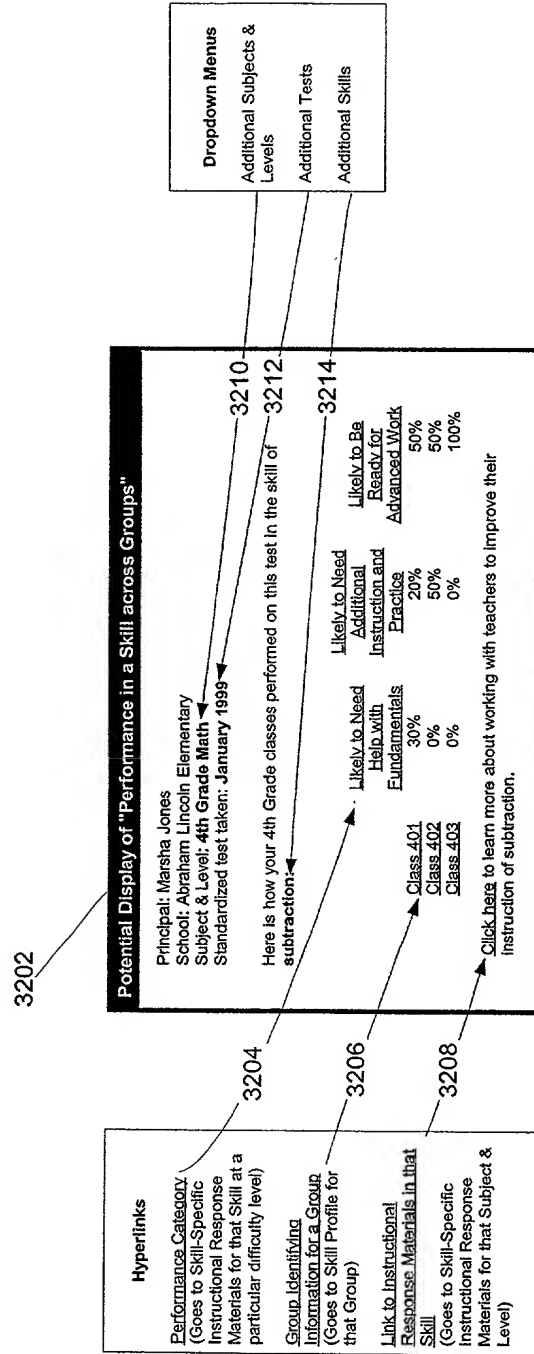
3004

**FIGURE 31**  
*Diagram of Potential Hyperlinks in a Display Website*

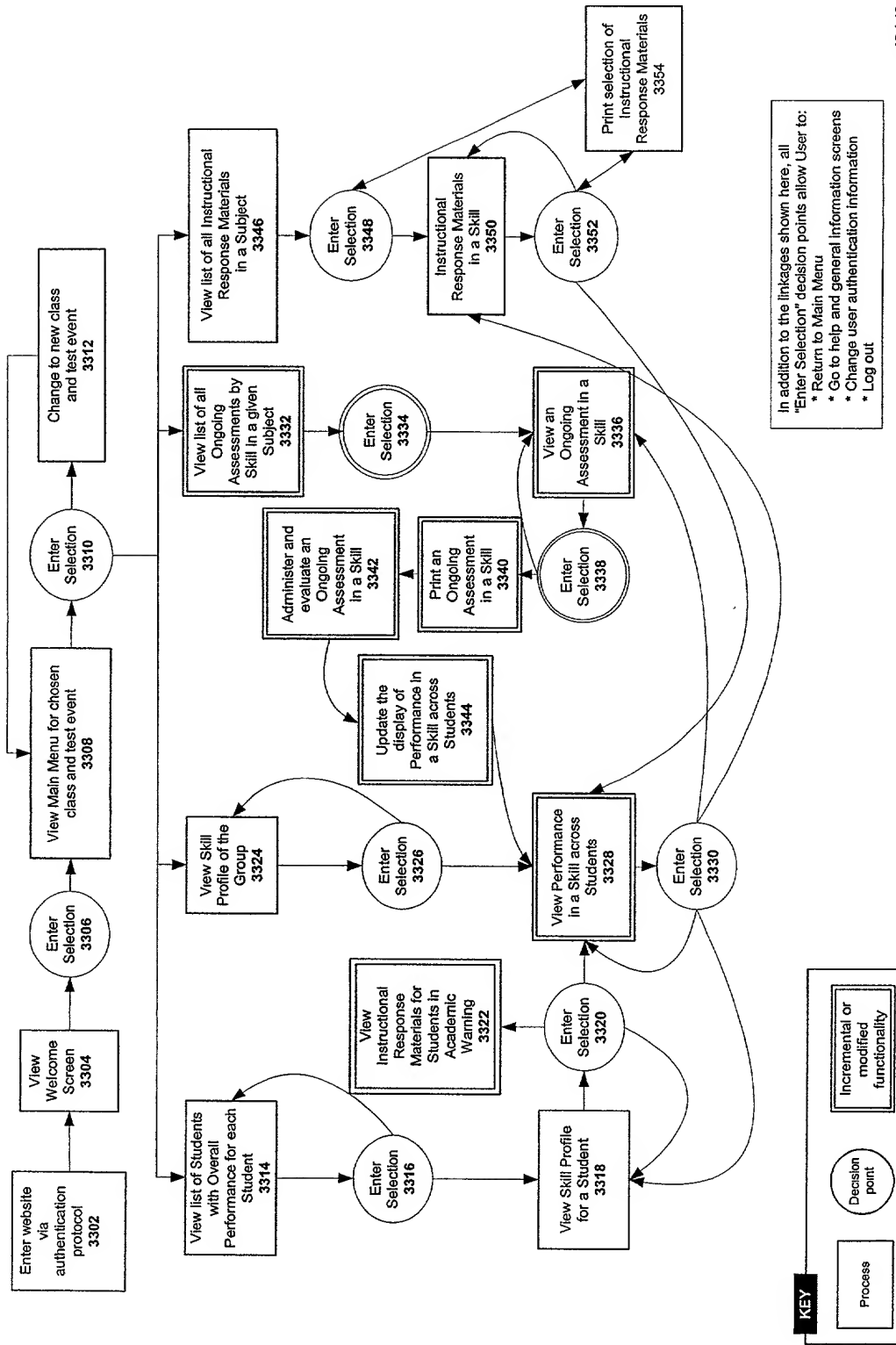




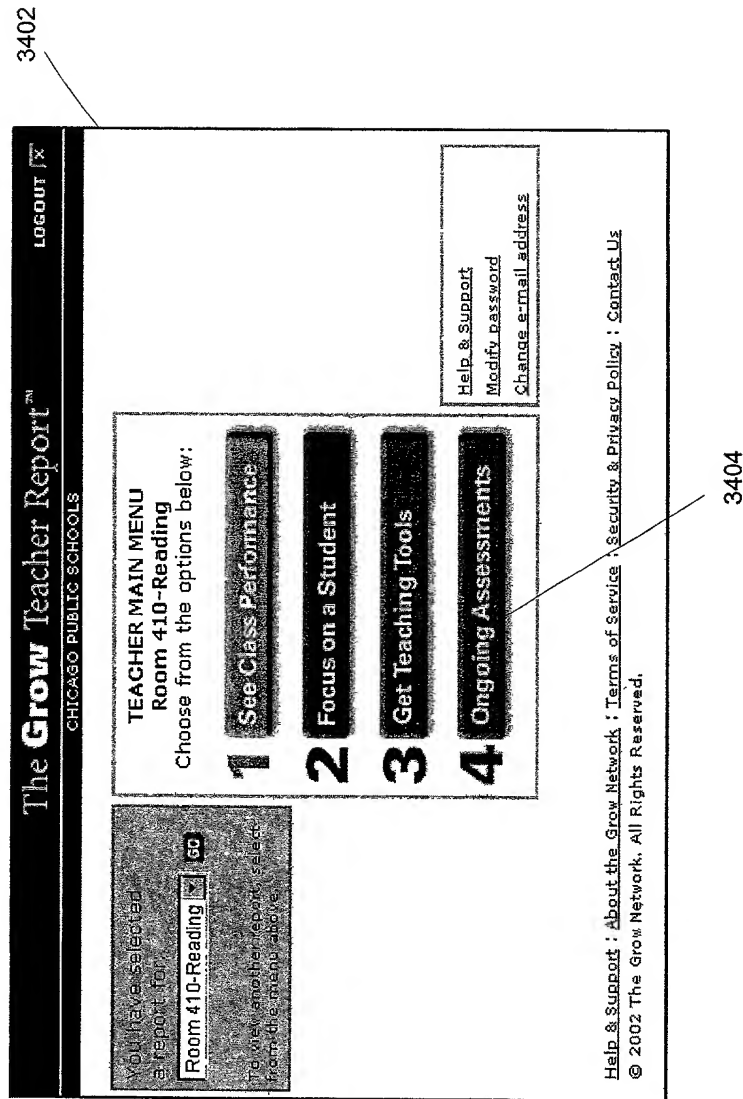
**FIGURE 32**  
*Diagram of a Potential Electronic Display of "Performance in a Skill across Groups"*



**FIGURE 33**  
*Flowchart of a Display Website with an Ongoing Assessment Component*



**FIGURE 34**  
*Diagram of a "Welcome" Display for a Website with an Ongoing Assessment Component*



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Ongoing Assessments: Reading

Update Flexible Groupings

Contents

- Author's Purpose
- Cause and Effect
- Character
- Fact and Opinion
- Genre and Literary Terms
- Main Idea and Theme
- Predicting Outcomes
- Sequence
- Setting
- Words and Phrases in Context

What are Ongoing Assessments?

The Grow Network's Ongoing Assessments in Reading are a good way to "take the pulse" of your class in important topic areas. You can give an Ongoing Assessment at the start of a unit, at the end of a unit, or whenever you want to find out quickly "where your class stands" in any given area.

When you finish grading an Ongoing Assessment for any given student in your class, you can update the student's Flexible Grouping information in your Grow Report Online.

Format of Ongoing Assessments

Ongoing Assessments include sample questions, an answer sheet, and a teacher reference guide with scoring suggestions.

Each Ongoing Assessment in Reading is made up of two multiple choice and two short answer questions. These questions are chosen to test your students' ability to comprehend key details from a brief reading passage.

Ongoing Assessments are designed to be easy to grade. Scoring on the multiple choice questions is always 1 point for a correct answer and 0 points for an incorrect answer. Scoring on the short answer questions is 2 points for a correct response, 1 point for a partially correct response, and 0 points for an incorrect response.

Here is a suggested way to update the Flexible Groupings in your Grow Report Online, based on how your students perform on the Ongoing Assessment:

- 0-1 points Fundamentals column
- 2-4 points Practice column
- 5-6 points Advanced Work column

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FIGURE 35  
Diagram of an "Introduction to Ongoing Assessments" Display for a Website  
with an Ongoing Assessment Component

3504

3502

FIGURE 36

Diagram of a "Performance in a Skill across Students" Display for a Website with an Ongoing Assessment Component

MAIN MENU

The Grow Teacher Report™

LOGOUT

CHICAGO PUBLIC SCHOOLS

Flexible Grouping for Character

Room 410 - Reading

--Choose another topic--

See Teaching Tools for Character

Ongoing Assessments in this topic

Update Flexible Groupings in this topic

Flexible Groupings for ISAT 2002

Likely to Need Help with Fundamentals	Likely to Require Additional Instruction and Practice	Likely to Be Ready for Advanced Work
Allen, John	Allsopp, Victoria	Cavanaugh, Kate
Barda, Willy	Bochamps, Martin	Collier, Edward
Cass, Arla	Chester, Jane	Munoz, Maria
Cass, Mary	Crowe, Amir	Reid, Jesse
Davis, Latoyah	Gottlieb, Matt	Taveras, Rosa
Gupta, Anita	Marshall, Gary	
Latham, Hal	Martinez, Tom	
Miller, James	Moleson, Rachel	
Navarez, Esteban	Moss, Michael	
Nunez, Sunny	Ormond, Nancy	
Roebuck, Lila	Reese, Nelson	
Rosado, Juan	Roberts, Mike	
Sanchez, Jose		
Sandies, Dan		
Thoreau, James		

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3604

3606

3602

FIGURE 37

Diagram of an "Update Student Skill Assignments" Display for a Website with an Ongoing Assessment Component

3702

3704

MAIN MENU
The Grow Teacher Report™
LOGOUT
CHICAGO PUBLIC SCHOOLS

### Update Flexible Groupings

In order to move a student to a new category, click the circle under the appropriate column for each student. Then click "Submit" at the bottom of the page. To start over with the previous values, click "Reset."

☐ Original position  
☒ F = Help With Fundamentals  
☐ P = Additional Instruction and Practice  
☐ A = Advanced Work

Source of Information: Ongoing Assessments

2012-2013 version  
of score sheet

	F	P	A
Allen, John	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allsopp, Victoria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barda, Willy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bochamps, Martin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cass, Arla	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cass, Mary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cavanaugh, Kate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chester, Jane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collier, Edward	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crowe, Amir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Davis, Latoyah	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gottlieb, Matt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gupta, Anita	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Latham, Hal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marshall, Gary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Martinez, Tom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Miller, James	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moleson, Rachel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moss, Michael	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Munoz, Mana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Navarez, Esteban	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nunez, Sunny	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ormond, Nancy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reese, Nelson	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moleson, Rachel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moss, Michael	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Munoz, Mana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Navarez, Esteban	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nunez, Sunny	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ormond, Nancy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reese, Nelson	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reid, Jesse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Roberts, Mike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Roebuck, Lila	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rosado, Juan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sanchez, Jose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sandies, Dan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taveras, Rosa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thorpau, James	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Submit
Reset

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**FIGURE 38**  
Diagram of an "Ongoing Assessment" Display for a Website  
with an Ongoing Assessment Component

[ Press the back button on your browser to return to where you were ]

**Chicago Public Schools - Grade 4 Reading**

**Character**

The Grow Network Ongoing Assessment

---

*Read the following passage. Then answer the questions below.*

---

Michelle wanted to be the best shot on her basketball team. Every morning she went to school early and spent an hour practicing in the gym by herself. In the evening, she would practice all alone at the playground near her house. She loved the swish sound of a perfect shot, and she was improving every day. But she still wasn't as good as her best friend Lisa, the team's star forward. Sometimes Lisa teased her for trying so hard, but Michelle would just smile and keep practicing.

- Which word best describes Michelle?
  - jealous
  - dedicated
  - lonely
  - frustrated
- At the end of the passage, why does Michelle smile?
  - Lisa has just told Michelle a joke
  - Michelle likes being alone
  - Michelle is about to make a successful shot
  - Michelle is confident that she's doing the right thing
- Michelle and Lisa are both characters in this passage. List three (3) things the passage tells us about Lisa.
- In your own words, describe what problem Michelle faces. What does she do to overcome it?

---

**SCORING GUIDE**

- The correct answer is (b), dedicated
 

0 Points = incorrect or no answer  
1 Point = correct answer
- The correct answer is (d), Michelle is confident that she's doing the right thing
 

0 Points = incorrect or no answer  
1 Point = correct answer
- For sample responses, see Teacher Reference Guide below
 

0 Points = all incorrect or no answer  
1 Point = one or two things about Lisa  
2 Points = three things about Lisa
- For sample responses, see Teacher Reference Guide below
 

0 Points = no answer or both parts of question incorrect  
1 Point = one part of question correct  
2 Points = both parts of question correct

**TOTAL SCORE**

Here is a suggested way to update the Flexible Groupings in your Grow Report Online, based on a student's total score on the Ongoing Assessment

0-1 points Fundamentals column  
2-4 points Practice column  
5-6 points Advanced Work column

3804

3802

3806

3808

FIGURE 39

Diagram of a "Focus on a Student" Display for a Website with an Ongoing Assessment Component

